DOCUMENT RESUME

ED 094 244 CE 001 777

AUTHOR Parkyn, George W.
TITLE Towards a Conceptual Model of Life-Long Education. Educational Studies and Documents: No. 12.
INSTITUTION United Nations Educational, Scientific, and Cultural Organization, Paris (France).
PUB DATE 73
NOTE 55p.; Also available in French
AVAILABLE FROM United Nations Educational, Scientific, and Cultural Organization, 7, Place de Fontenoy, 75700 Paris, France (Order No. 92-3-101117-0, $1.95)

EDRS PRICE MF-$0.75 HC Not Available from EDRS. PLUS POSTAGE
DESCRIPTORS *Conceptual Schemes; *Continuous Learning; Educational Change; *Educational Coordination; Educational Needs; Educational Programs; Educational Trends; Foreign Countries; Interagency Coordination; Intercultural Programs; Learning Processes; *Models; Sociocultural Patterns; *Unified Studies Programs
IDENTIFIERS Peru

ABSTRACT

The United Nations Educational, Scientific, and Cultural Organization (UNESCO), sees as one of its major tasks assisting nations to appreciate the concept of life-long education and to work out its implications in the many different sets of conditions found throughout the world today. The paper constructs conceptual models for the provision of life-long education and applies them to actual situations. Introducing the concepts with an overview of the sociological and psychological foundations of life-long education, the first major section of the document deals with specifications for a generalized model. Presented are: (1) fundamental aims of education, (2) life-long developmental needs and educational programs, (3) the organization of educational provision, (4) educational technology for life-long learning, and (5) the administration of life-long education. The final section offers a model and its application, describing: (1) conceptual models; (2) an organizational model coordinating the main educative agencies of the community; (3) an administrative model; (4) an application of the model to Peru, discussing its educational reform, organizational and administrative structure, model differences, interim changes, and future needs; and (5) strategies of educational change. (MW)

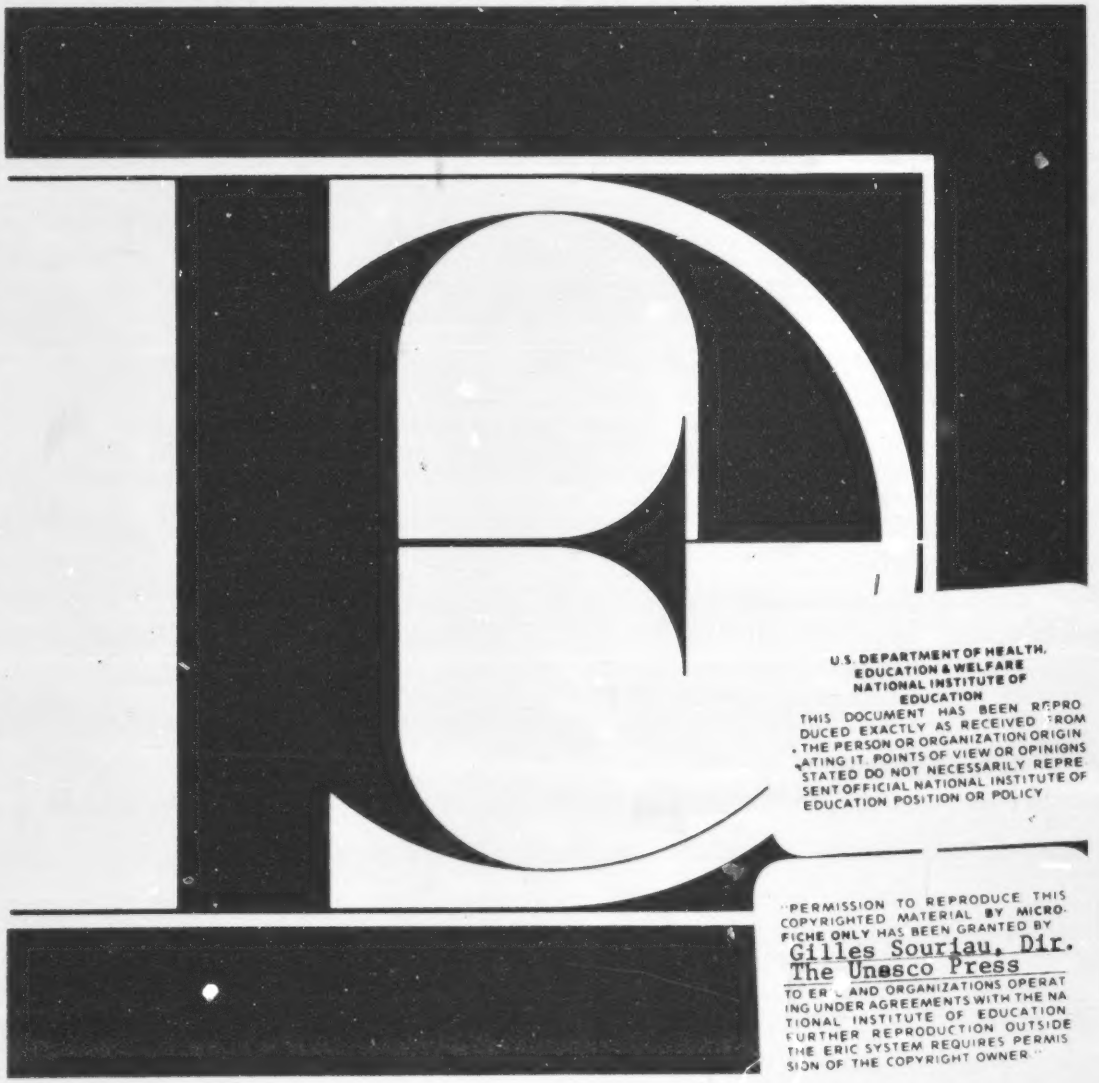
ED 094244

No. 12

Towards a conceptual model of life-long education

BEST COPY AVAILABLE

Educational studies and documents



U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

"PERMISSION TO REPRODUCE THIS COPYRIGHTED MATERIAL BY MICROFICHE ONLY HAS BEEN GRANTED BY
Gilles Souriau, Dir.
The Unesco Press
TO ERIC AND ORGANIZATIONS OPERATING UNDER AGREEMENTS WITH THE NATIONAL INSTITUTE OF EDUCATION. FURTHER REPRODUCTION OUTSIDE THE ERIC SYSTEM REQUIRES PERMISSION OF THE COPYRIGHT OWNER."

DE 001 777

Unesco

EDUCATIONAL STUDIES AND DOCUMENTS
New series

Published in English, French and - for titles marked with an asterisk - in Spanish.

List of titles published or in preparation:

1. Education in the Arab region viewed from the 1970 Marrakesh Conference
2. Agriculture and general education
3. Teachers and educational policy
4. * Comparative study of secondary school building costs
5. Literacy for working: functional literacy in rural Tanzania
6. * Rights and responsibilities of youth (also available in Russian)
7. Growth and change: Perspectives of education in Asia
8. Sports facilities for schools in developing countries
9. Possibilities and limitations of functional literacy: the Iranian experiment
10. Functional literacy in Mali: training for development
11. * Anthropology and language science in educational development
12. Towards a conceptual model of life-long education
13. Curriculum planning and some current health problems
14. ALSED Directory of specialists and research institutions

In the field of education, Unesco also publishes the following periodicals:

Prospects. Quarterly Review of Education
Literacy Newsletter
Educational Documentation and Information: Bulletin of the IBE

ED 094244

Towards a conceptual model of life-long education

by George W. Parkyn

BEST COPY AVAILABLE

Unesco

English Edition ISBN 92-3-101117-0

French Edition ISBN 92-3-201117-4

Composed and printed in 1973 in the Workshops of the United Nations Educational, Scientific and Cultural Organization, Place de Fontenoy, 75700 Paris, France

© Unesco 1973 [B]

PREFACE

In line with Unesco's view that the concept of life-long education should underlie all of the Organization's educational action, the preparation of a series of studies on educational structures consistent with the requirements of life-long education was undertaken in 1971. It was proposed that each of these studies should outline a possible model for a system based on the ideal of a continuous educational process throughout the lifetime of the learner. Moreover, each study would, if possible, indicate the means for bringing an existing national school system into line with life-long learning. The objective was to clarify the principles of life-long education, and to demonstrate how the ideal could be approached.

The Secretariat called on George W. Parkyn of New Zealand to prepare this first study. Dr. Parkyn has rendered extensive service to education in many parts of the world: in New Zealand, as a teacher in primary and secondary schools, as a senior lecturer at the University of Otago, and as director of the New Zealand Council for Educational Research, 1954-1967; at Unesco, where he made substantial contributions to the World Survey of Education; at Stanford University, California, as a visiting professor; in New Zealand again, as a visiting lecturer in Comparative Education at the University of Auckland; and as Professor of Comparative Education at the University of London, Institute of Education.

Dr. Parkyn was asked to review the available literature in this field and to involve several of his colleagues at Stanford University, California, in discussions on the basic concept. Psychologists, sociologists, and anthropologists, as well as professional educators took part in the conceptual stage, contributing a rich variety of views. Among those who helped the author in the preparation of the study were his research assistants, Mr. Alejandro Toledo and Mr. Hei-tak Wu, and his colleagues, Dr. John C. Bock, Dr. Martin Carnoy, Dr. Henry M. Levin and Dr. Frank J. Moore.

The study is intended for those who make or influence decisions about national educational policies. As more and more consumers of traditional education come to doubt its ability to serve their needs, the study may be appreciated by a larger audience. Moreover, it would seem to complement the report of the International Commission on Education, although Dr. Parkyn completed his work several months before publication of Learning to Be.

The views expressed in the paper are those of the author, and do not necessarily reflect those of Unesco.

TABLE OF CONTENTS

			Page
PART I:		INTRODUCTION	7
	1.	The concept of life-long education	7
	2.	Sociological and psychological foundations of life-long education	11
PART II:		SPECIFICATIONS FOR A GENERALIZED MODEL OF LIFE-LONG EDUCATION	17
	1.	Fundamental aims of education	17
	2.	Life-long developmental needs and educational programmes	19
	3.	The organization of educational provision	26
	4.	Educational technology for life-long learning	30
	5.	The administration of life-long education	33
PART III:		A MODEL AND ITS APPLICATION	37
	1.	Conceptual models	37
	2.	An organizational model	39
	3.	An administrative model	44
	4.	An application of the model	46
	5.	Strategies of educational change	53

Part I

INTRODUCTION

1. THE CONCEPT OF LIFE-LONG EDUCATION

Unesco's commitment to life-long education

"With regard to life-long education, it is now a matter of common knowledge that this is a concept which explains the real meaning of modern education and which should inspire and sum up all efforts directed towards reform ... In the period following International Education Year, which we have reason to hope will give an impetus to global thinking and the will to reform, this ought to be the main line along which should be planned, over the next decade, Unesco's activities in all matters pertaining to education."(1) This statement by the Director-General of Unesco indicates Unesco's major educational commitment during the 1970s. It marks the acceptance of a principle that has been forming in the Secretariat for several years and that has crystalized clearly as the results of the earlier efforts have come to be more fully appreciated.

In December 1965, Unesco's International Committee for the Advancement of Adult Education discussed a paper by Paul Lengrand on the concept of continuing education, and recommended that Unesco should endorse the principle of life-long education. This, it said, was the animating principle of the whole process of education, regarded as continuing throughout an individual's life from his earliest childhood to the end of his days, and therefore calling for integrated organization. It is noteworthy that the Committee saw clearly the central problem of life-long education, namely integrated organization. It stated that integration should be achieved both vertically, throughout the duration of life, and horizontally to cover all the various aspects of the life of individuals and societies.

In planning for International Education Year, the Secretariat reviewed Unesco's educational programmes over the preceding years, and those deemed essential were incorporated in proposals to the fifteenth session of the General Conference at the end of 1968. Resolution 1.112 of the General Conference listed twelve major objectives, one of which was life-long education.

As the various projects being initiated by Member States throughout 1970 were examined, life-long education was seen to be the unifying principle that would enable all aspects of education to be brought together into a coherent whole. Member States were urged, therefore, not merely to seek new approaches to educational problems but to redefine education and see it as a dimension of life throughout its entire length. In several striking cases, an awareness of this new perspective only arose when sometimes conflicting solutions to such concrete problems as the education of delinquent adolescents, the care of pre-school children, and the designing of community educational centres, resulted from considering them as if they were independent of one another. The realization of their mutual interdependence often removed the difficulties.

When the results of International Education Year were evaluated, it was found that life-long education had in fact become one of the themes that were most prominent among all the various projects carried out by Member States during the course of the year. In his report on the activities of Unesco during 1970(2) the Director-General noted that at least 49 projects had been undertaken that explicitly tried to elucidate the concept of life-long education, to examine its implications for current programmes in such fields as literacy teaching and occupational retraining, or to apply it in planning new activities. The Director-General

(1) International Education Year 1970, Bulletin, No. 2, September 1969, p. 3.

(2) Report of the Director-General on the Activities of the Organization in 1970. Addendum: General Assessment of Education Year, p. 10. Paris, Unesco, 1971.

emphasized that a central task was still that of theoretically analysing the implications of integrated life-long education, and of establishing priorities among the problems that will arise with the institutionalization of the concept.

When a Special Committee of the Executive Board of Unesco came to consider the Director-General's Report in April 1971, it was apparent that, while there had been widespread concern, in the Secretariat and in Member States, with the problem of institutionalizing life-long education the concept itself was still far from perfectly understood. However, the practical difficulties of reorganizing national education systems to achieve closer integration of all their formal and non-formal components were obvious. The Education Sector of Unesco itself was undertaking 29 projects concerned with life-long education, and as these were distributed among four departments their harmonization was not easy to achieve. Nevertheless, as the Director of the Education Sector emphasized to the Special Committee, a point in Unesco's history had at last been reached where the process of education was no longer being thought of as divided into separate entities, primary education, secondary education, technical education, and adult education; these were now seen as a continuous and integrated process. (1) Henceforth, Unesco's educational programme, however diverse its components, is to be seen in the perspective of life-long education. International Education Year 1970 marked a turning point in Unesco's approach to the problems of education in its Member States.

Life-long education and the Second Development Decade

International Education Year 1970 is also significant as the beginning of the Second Development Decade, a decade that promises to be momentous in the concern that Unesco is showing for a conception of development that far transcends mere economic growth, and encompasses the full life of man. In a paper presented to the Stanford International Development Education Center, Malcolm S. Adiseshiah, then Deputy Director-General, demonstrated that there was no generally accepted concept of development guiding the activities of the 1960s, and in consequence the decade had ended with divergent instead of convergent national and international actions. He declared that what was implicit in the few targets of the decade soon became transformed into an economic growth concept of development which produced its own structural distortions and social and international upheaval. (2) And in the spheres of education, science and culture the positive achievements of the decade had themselves given rise to critical problems. Despite the spectacular expansion of education, there were more children out of school than in school, and the demographic explosion, responsible for this fact, had also increased the number of adult illiterates. Nevertheless, he pointed out that one of the gains of the First Development Decade was that the Karachi, Addis Ababa, and Santiago Plans embodied the first comprehensive attempts to assess long-range objectives expressed in terms of ends rather than means, and these early and imperfect approaches to systems analysis had led to an appreciation of the need for an even more comprehensive and integrated view of both the process of development and the process of education.

In the crisis conditions that beset education throughout the world during the 1960s, education, too, came to be seen as an integrated sub-system within the total social system, and the long-latent concept of life-long education found acceptance. In the words of Adiseshiah, "Nascent at best, little understood, mistrusted by many, and eliciting little operational interest, this invaluable cultural jewel of the industrialized society is the discovery of the decade. Its implications, diffusion and application in all of social and individual life have yet to be worked out". (3) It is not too much to say that the key to realization of the aspirations of the Second Development Decade will be found in a proper appreciation of the two concepts of "development" and "life-long education".

The concept of life-long education

The concept of "life-long education" is not difficult to grasp. Everyone is familiar now with the fact that in the modern world new knowledge and new conditions of existence are coming into being so fast that no one can go through life without having to learn much that is new. It is clear that we cannot learn during childhood and adolescence all that we shall need throughout life. Nor can we acquire in a casual way, without deliberate educational provision, the complex new forms of knowledge and skill that we shall need at various points in our lives. In an age of complex living conditions and rapid change, the need for continuing educational provision can readily be seen. The "life-long" component of the term, then, is easily understood. The other component, "education", presents greater difficulty for this takes on a different aspect when it is a life-long process rather than a child-centred and adolescent-centred one.

(1) Unesco Executive Board, Report of the Special Committee on its Examination of the Report of the Director-General on the Activities of the Organization. p. 22. Paris, Unesco, 14 April 1971. (87 EX/6).

(2) Malcolm S. Adiseshiah, Unesco and the Second Development Decade. Paper presented to the Stanford International Development Education Center, Stanford University, 24 July 1970, p. 5. Paris, Unesco, 1970.

(3) Ibid., p. 3.

An adequate understanding of the concept of life-long education calls for a careful examination of the basic concept of education itself, and the success of any reorganization of education in the perspective of life-long education will require a radical change in the traditional view. The essential difference is between the view that education is a preparation for a life that will be lived after education is completed, and the view that it is an essential element throughout the whole of the individual's life. It is easy to make a verbal resolution of the contradiction by saying that education is at one and the same time a process of living in the present and a process of preparation for further living. The problem is what kind of education can do both.

For the present era, probably no philosopher of education has made a more relevant conceptual analysis of the relationship between living and education than Dewey. Early in this century he had recognized that education was a life-long process and had stated explicitly the characteristics of such a process. The essence of his formulation is relevant to every aspect of our consideration of life-long education.

Life-long learning

Life, stated Dewey, is a process of development, and developing is living. This process is not simply a spontaneous unfolding of latent potentialities, little affected by the environment, nor is it simply a forming or shaping by external stimuli. At all stages it is a transaction between a living being and its surroundings, a transaction in which the living being mentally or physically transforms or reconstructs those parts of its environment that are relevant to its life. In so doing it transforms itself and enhances the quality of its life. The value of the process of transformation lies in its continued enhancement of the quality of living. Development leads to the possibility of further development.

Human beings are essentially social beings, and the environmental conditions within which they develop are in the main socially created. They include all aspects of man's culture, his knowledge, skills, attitudes, customs, laws, beliefs, values, and so on. Their transformation takes place not by mere physical ingestion and digestion as in the intake of food, but by perceiving, conceiving, enlarging the range of meaning of experience, by learning. The value of learning lies in the extent to which it enriches experience. It is, indeed, says Dewey, "the chief business of life at every point to make living thus contribute to an enhancement of its own perceptible meaning".(1) For social man, then, learning is essential to continued development.

It is characteristic of human beings that they have ideals that lead them to hope that they will develop in one way rather than another. In consequence, they do not leave their learning entirely to a spontaneous interaction with the environment. They seek to influence their development, typically by influencing the process of learning, of transforming and reconstructing their experience. The term "education" is commonly used for this deliberate influencing of learning. Moreover, knowing that different kinds of environment have different effects upon people, they influence the development of their fellows by providing environments in which desired learning is facilitated.

Learning and education

Keeping in mind Dewey's idea that living is developing, that developing is learning or the reconstructing within oneself of experience, and that education is a process of deliberately providing conditions in which such reconstructing is facilitated, we can see how he arrived at what, from the point of view of the developing individual, he called a technical definition of education. "It is that reconstruction or reorganization of experience which adds to the meaning of experience and which increases ability to direct the course of subsequent experience."(2) It should be noted that this is a definition of the process of education. It is not a statement of the aims of education, nor of the concrete results of different educational influences. It is therefore a definition that is equally applicable in widely divergent cultures.

It is conceivable that human beings can cease developing mentally while continuing to exist as physical organisms and to behave at a level reached early in their lives. In a static society this might not be of importance to the individual. In changing societies, however, a satisfying life depends upon continued transformation of experience. In such societies therefore educative environments have to be maintained in such a way that people can continue to learn throughout their lives.

Learning and education are not synonymous. Education is a term that implies more than learning does. It implies the provision of conditions that will facilitate learning. Life-long learning and life-long education, then, are not identical concepts. The essence of Dewey's analysis of individual development and its dependence upon learning is applicable at all ages. Both the learning of children and the learning of adults must have this quality of continual transformation of the learner's experience. This quality will be the criterion by which we judge the efficacy of any model of life-long education. Again, it should be noted that this analysis transcends national and cultural differences. It does not deal specifically with such matters as the use of education for economic or political purposes or with the relationship of educational aims to the different values of different cultures or sub-cultures. These will be considered later.

---

(1) John Dewey, Democracy and Education, p. 90. New York, Macmillan, 1916.

(2) John Dewey, op. cit. p. 90-1.

The environment for learning

There are many ways in which educative environments can be created. They range all the way from informal situations, in which the learner simply accompanies other people as they go about their daily work and learns by play-like participation in and imitation of their activities, to the deliberately structured situations provided by agencies such as schools and universities which are specifically designed for helping people to learn.

The learning environment is made up of (a) people: students, teachers, parents, friends, administrators; (b) facilities: living areas, working areas, classrooms, libraries, museums, laboratories; (c) materials: all kinds of materials and all kinds of tools and equipment; and (d) activities: the curriculum, the content of what is taught and learned, the activities that are carried out as the means by which the learner's experience is transformed. It is from these elements that educational situations are created. The fundamental questions concerning the process of education, as distinct from the aims of education, are which elements are appropriate for any particular kind of learning, and what mixture of elements is best for individuals at different stages in their lives.

The integration of educational facilities

Life-long education, then, implies the deliberate provision of educational environments for people at any stage of their personal development. In the complex modern world, the institutionalizing of life-long education will itself be a very complex thing. The essential elements of such a system are already present in some degree in most societies. There are some facilities for adult education in every country. There are school and university systems for children and adolescents in almost every country, with a more or less comprehensive coverage of the relevant age-groups. There is a variety of pre-school and out-of-school arrangements for child care, agencies for community development, facilities for on-the-job training in vocational skills, and there are libraries, galleries, museums, and so on.

The task is not merely to extend such facilities so that there are enough of them for all people. It is also to construct systematic relationships between them, so that they complement one another and comprise an integrated whole with interrelated parts. In such a system, to give an example of what is implied, adult education would not be a separate entity, poorly financed, intended merely to compensate for deficiencies in the earlier stages of the educational process. It would be, rather, the crowning phase of a continuous, integrated series of provisions. Institutionalizing the concept of life-long education, then, implies a systematic organization of all levels of formal schooling and non-formal out-of-school educational activities in such a way that they provide an environment for learning throughout the life of man.

Conceptual models for life-long education

As a result of its experience in helping Member States to improve their education systems and as a result of its growing awareness of the significance of the great technological and social changes that are currently transforming the condition of mankind, Unesco sees that one of its major tasks is to help the nations to appreciate the concept of life-long education and to work out its implications in the many different sets of conditions found throughout the world today. A useful way to begin this is to construct conceptual models for the provision of life-long education and to apply them imaginatively to actual situations. The present paper is one attempt to do this.

It is, of course, not possible to develop a detailed model of life-long education that could be adopted universally. As Paul Lengrand has pointed out, there can be no question of proposing only one pattern for life-long education, since every country has its own structures and traditions, and since historical evolution is such that at any given moment in a society's history one element assumes priority over all others. (1) Nevertheless, by seeking to develop a highly generalized conceptual model, we can achieve two very important results. First, we can gain a sounder understanding of the concept itself through an attempt to elaborate its implications. Secondly, we can develop general principles that can be applied to planning a system for a particular country at a particular time.

In the next section, the sociological and psychological foundations of life-long education will be considered, in their relevance to the provision, organization, and administration of facilities for such education. A conceptual model will then be outlined and applied, by way of example, to one developing country, and a strategy for transition suggested as a guide to educational planners who may be responsible for reorganizing their present educational systems.

(1) Paul Lengrand, An Introduction to Life-long Education, p. 73. Paris, Unesco, 1970.

2. SOCIOLOGICAL AND PSYCHOLOGICAL FOUNDATIONS OF LIFE-LONG EDUCATION

Education in a changing society

Mankind is facing a unique combination of socio-cultural forces that are bringing about a radical revision of traditional ideas on education. The outstanding feature of our times is the rapidity of change in almost all aspects of human life. The acceleration in science and technology, the great population increase, the improvements in the production of consumer goods, the enlarging network of communication, the drive towards social mobility and participation in political and cultural activities by sections of the population that in the past were relatively inactive in these respects - these are some of the main factors that make our era so different from any that have preceded it. They have shown us that most current education systems have deficiencies so serious that they call for a thorough reshaping.

In the first place, most systems have been giving inadequate attention to the educational needs of the major part of the population of any country, the adults. These are the people who are immediately involved in the momentous changes of the times, and the people who, in order to survive, have to make the most immediate and rapid adjustments and be responsible for and participate in the making of the crucial political, economic and social decisions needed. It is still commonly assumed that the informal educative experiences of life are adequate for adults. Yet the evidence of advanced countries is that adult education is becoming increasingly appreciated. In the United States of America more than a quarter of the adult population is enrolled in educational courses. (1)

In the second place, most developed education systems have in many respects been preparing children to enter a world that is rapidly passing, and at the same time many developing countries have been imitating systems whose relevance to the needs of the new era is being seriously questioned in the countries of their origin. Even when far-seeing teachers and administrators have introduced innovations designed to prepare young people for a changing world and designed with an awareness that education must be a life-long process, the necessary structures have rarely provided for more than a small segment of the population in the more favoured countries.

It is clear, moreover, that the problem is one of designing an education not for a known future but for life in a world characterized by continuing change. In some fields it will be possible to predict the nature of the changes with some accuracy, for example the spread of automated industrial processes, the involvement of more people in economic and political decision-making and an increase in longevity and in leisure, with the concomitant opportunity for an enrichment of life through cultural activities that once were the privilege of an élite. What is most probable, however, is that unpredictable changes will be a major characteristic of the future, requiring the continuous adaptation of man to new circumstances, continuous learning and relearning, and continuing opportunities for education at every phase of the life cycle. This implies that man can be expected to need facilities to help him to learn throughout 50 or 60 years of a lifetime, rather than just for the first 15 or 20 years. The twofold requirement of any model for the future, then, is that it provide adequately for the lengthening years of adulthood and that it see the education of children in this perspective of life-long education.

In envisaging a model of education appropriate to the needs of changing societies it is necessary to see to what extent existing educational structures and processes are inadequate, so that they can be reshaped, or so that more suitable new structures can be created. The present section sets out some of the major sociological and psychological factors in the situation and considers their implications for the design of such a model.

Inadequacies of present-day systems

The inadequacy of educational opportunities for adults has been dramatically revealed in the course of the rapid social changes of the past two decades, not only in developed countries but also in the developing countries. In the economic sphere, new occupations have been created and old ones have disappeared. In many countries, the proportion of workers in agriculture is steadily diminishing, and the proportion in industrial, commercial and service occupations is increasing. In the political sphere, the newly independent countries of the world find their efforts to govern themselves handicapped by education systems better fitted to maintain the power of governing élites than to provide their citizens with the education needed for building new social institutions. In their private lives people have been overwhelmed by the breakdown of traditional conceptions of man and his place in the universe, as new knowledge shakes the old certainties. At the same time, increasing leisure has opened new possibilities for cultural development, but people are largely unprepared for it and their lives are often spent in unsatisfying activities.

(1) Harold J. Alford, Continuing Education in Action, p. 1. New York, John Wiley & Sons, 1968.

Economic needs

Before the current technological revolution, occupations were fewer and more stable, so that learning them could be based upon the process of absorbing traditional knowledge and skills by apprenticeship. Even the learned professions that first developed so much systematized knowledge that they required extensive formal education, changed only slowly with the gradual accretion of knowledge and technique. The bulk of mankind worked in occupations that required little scientific knowledge and no formal education. Moreover, those people whose occupations did require formal education and training expected to remain in one occupation and in one social stratum throughout their lives. In consequence, most people received the minimum education needed for a lifetime of work in the field in which they were destined to remain.

In the present era none of these assumptions is valid. Changing techniques and increasing knowledge require continuous learning in the learned professions. Their practitioners have, indeed, always recognized an obligation to keep abreast of the advances of science and scholarship, and they are now realizing that the traditional methods of self-education are inadequate. In the trades, while some basic techniques have changed very little over the years, new processes and equipment give birth to new skills at such a rate that many workers have to be prepared for three or four phases of occupational retraining in a lifetime. They need to be educated for occupational versatility rather than trained for occupational stability. (1)

Furthermore, social changes in the nature of employment have educational implications as profound as those of technology. Rigidly stratified relationships between managers and workers are inappropriate in modern enterprises, where industrial and commercial processes are so complex that smooth functioning can be brought about only by more co-operative and egalitarian relationships based on constantly changing knowledge and skill. This in turn is difficult to achieve when the lower-level workers in an enterprise have been narrowly trained for specific skills but have not had a good general education. (2) In some countries the unwillingness of élites to recognize the need for the participation of workers in management is handicapping their unquestioned efforts for economic progress.

Political needs

The failure of education systems to provide adequately for the continuing needs of citizens is most clearly to be seen in those countries that have recently achieved political independence and in which democratic aspirations are emerging. The task of bringing about national integration among diverse tribal, linguistic, and ethnic groups and of involving people democratically in the political process is essentially the responsibility of the adults. The literacy and general education that are fundamental to the processes of self-government are needed by the adults of these nations now, yet their resources are being strained to build up school systems for children who will not be ready to play their part for several years. When most of the adult population is uneducated, the danger of perpetuating an élitism that runs counter to emerging aspirations for democratic development is all too obvious.

Personal needs

If each individual is to be better able to see meaning in his personal life in a complex world, a world whose survival depends upon the ability of people to transcend time-bound and place-bound national, ethnic and religious attitudes, certain profound concepts need to become part of the consciousness of our age. In a simple form, their essence can be grasped early in life, but their development demands continuing experience and knowledge. Some of these basic concepts have been well set out by Paul Lengrand. They are the concepts of scientific attitude, of relativity and of historicity. (3)

Basic to our comprehension of life and the universe is the spirit of discovery, together with the realization that current knowledge is always provisional. Constant reconstruction of experience is essential to mental growth, and an attitude of openness to new experience is the basis of this. The continuing mystery of the universe revealed by each new discovery shows that current knowledge, customs, beliefs and attitudes are all in some degree relative to the concrete situations in which men find themselves. An understanding of this is fundamental to man's ability to adapt himself to change, and to his ability to control change in the conditions of life with some insight into their effects upon himself. The preceding concepts culminate in a point of view from which the culture of man is itself seen in the perspective of scientific discovery. Knowledge itself evolves, along with ways of life and social systems. An appreciation of such concepts in the fullness of adult experience is essential to sanity in the world that is being created through science and technology. This is, it will be obvious, a post-Englightenment western view of the world. It accepts the idea that the world is now being so thoroughly transformed by science and technology that scientific logic is necessary for understanding it.

(1) Torsten Husén, "Talent, opportunity and career: a twenty-six year follow-up", The School Review (Chicago) 76: 190-209, June 1968.

(2) Torsten Husén, "Life-long education in the educative society," International Review of Applied Psychology, 17: 87-99.

(3) Paul Lengrand, Unesco Chronicle, 15: 251-9, July-August 1969.

There are, of course, other modes of thought.(1)

In pre-industrial societies, people were traditionally involved with music, art and other manifestations of their culture during the course of their daily work. The industrial system largely destroyed the cultural integrity of daily life, and only a favoured few were able to develop their talents in the most significant areas of human culture, in the sciences, the arts, in music, in literature. The increased productivity of modern industry, however, has reopened the possibility of leisure for all to develop hitherto dormant potentialities. Yet few societies are devoting more than a small part of their educational resources to providing for the cultural needs of their adults.

Untenable assumptions underlying education systems

The failure of so many nations to respond quickly to the need for extended adult education has been exacerbated by the very success of their efforts to establish systems of education for young people, and by certain of the basic assumptions on which such systems were founded at the beginning of the industrial era in Europe. It is important to examine these assumptions now, not only because they have had an inhibiting effect upon adult education but also because their influence is retarding the acceptance of the concept of life-long education.

The first of these assumptions is that childhood is uniquely the time for education. Throughout the European tradition, under the influence of which the public education systems of the modern world have been built, runs the belief that, in the words of Comenius, a man can most easily be formed in early youth and cannot be formed properly except at that age. Even one of the founders of modern educational psychology, William James, said that it was difficult for anyone over the age of 25 to acquire new habits and new ideas. Education, then, was thought to be for children rather than for adults.

The assumption contains a partial truth. The conditions of learning and what is learned in early years do have a marked effect upon subsequent development. Yet we know now that the ability to learn continues with little diminution throughout the greater part of life, declining only gradually with advancing age. Furthermore, while there is a sense in which many complex concepts can be grasped at a very early age if they are presented in terms suited to the experience of the person concerned,(2) the profounder concepts upon which so much of the adult understanding of life depends need constant restructuring in the light of mature experience, and this process in turn requires continuing education, especially in a changing world. This principle applies not only to cognitive learning but also to the affective field. Attitudes, sentiments and beliefs can be modified by experience, though they are more resistant to change in later years than is cognitive knowledge.

The second assumption is that children should be taught those things that they will need to know when they are adults. Again, there is a partial truth here. There are many basic things that can be learned in early childhood, that should be learned then, and that remain permanently valuable. There are, however, many things needed in adulthood that it would be a waste of time and a waste of life to teach in childhood. Firstly, there are matters that are so difficult for children to learn and so irrelevant to their growing needs that hours and years of their lives could be spent getting such matters thoroughly learned on the chance that some day they would be needed. Secondly, there is knowledge that will inevitably be out-dated in the world of the future in which the learners will be adults.(3) Curriculum content of this kind too often fills a large part of school time when it is thought that the education in childhood adequately prepares people for their adult lives. Such a curriculum not only wastes time; it also inhibits further learning. Much of the common distaste for education when schooldays are past can be attributed to the premature and irrelevant content of the curriculum of many school systems.

A third assumption is that of the primacy of school-teaching in the educative process. When teachers were regarded as the repositories of the body of knowledge that had to be passed on to the learners, the teaching aspect of education was emphasized to the detriment of the learning aspect, the heuristic or discovery method of learning was neglected, and mass instruction took precedence over individualized learning. The vast possibilities of self-education in informal out-of-school situations were often neglected, and the schools and school-teachers were thought of as the major, if not the only, agencies of education in modern societies. One unfortunate effect of this was a failure to develop the educational potentiality of other cultural resources, such as libraries, museums, art galleries and the various places of work where much of the education of young people in pre-industrial societies took place by observation and participation.

But a more fundamental error is the tendency of the school to isolate learning from the context of immediate action(4). When the school is mainly concerned to prepare children for their future lives,

(1) Carlos Castaneda, The Teachings of Don Juan: a Yaqui Way of Knowledge, Berkeley, University of California Press, 1968; Peter L. Berger, The Social Construction of Reality: a Treatise in the Sociology of Knowledge, Garden City, N.Y., Doubleday, 1966.

(2) Jerome Bruner, The Process of Education, p. 43. Cambridge, Mass., Harvard University Press, 1960.

(3) Margaret Mead, Culture and Commitment: a Study of the Generation Gap, Garden City, N.Y., Natural History Press, 1970.

(4) Bruner, op. cit.

it makes for a divorce between theory and practice and this leads to the paradox that "Youth studies but cannot act; the adult must act but has no opportunity of study; and we accept the divorce complacently ..."(1) The desirability of preventing such a divorce and maintaining a close relationship between schooling and work was pointed out by Karl Marx at an early stage in the development of European public school systems.(2) Nevertheless, the divorce occurred, with unfortunate consequences.

Social stratification and educational provision

The main educational implications of such assumptions were supported by the prevailing view that the nineteenth-century stratification of society in industrialized Europe would be subject only to a relatively slow process of change. While some upward mobility of able people was allowed for, this was not expected to change the basically hierarchical organization of society. In consequence the working assumption was that the majority were socially predetermined to be skilled or semi-skilled manual workers, a much smaller number would be clerks and minor functionaries, while only a very small élite would occupy executive, managerial or professional positions. The schools would have a selective function as well as an educative function, and would provide only the elements of knowledge for the majority, reserving higher learning for the favoured few. The combined effect of these assumptions was to retard the progress of education for adults and to prevent people from seeing educational programmes in the perspective of life-long learning.

The widespread failure to appreciate the profound social changes that science, technology, and the growing aspirations to democracy and national independence were to bring about in a few decades kept people from perceiving earlier the limitations of these assumptions. It was not that the fact of change was unknown. On the contrary, the early industrial era was one in which change was obvious and people believed that the conditions of life were steadily improving. Public education was believed to be one of the prime agents of progress and the continued expansion of education for children was one of the marked accomplishments of the European industrializing nations. What was not realized was the extent to which the rate of change would accelerate.

Social change was seen as being gradual and evolutionary, in spite of the many attempts at political revolution. The human deprivation permitted to continue by the slowness of progress was generally thought to be preferable to that which might result from catastrophic speed. It took 50 to 60 years for industrializing countries such as Germany, France and Japan to establish universal literacy and to provide an educational ladder up which a few from the lower classes of society could climb through secondary schools and universities to the highest positions of authority and responsibility. This was perceived as being more rapid progress than had ever before been seen. It appeared to validate the opinion that the key to progress was the gradual building of a nation's education system from the bottom, by providing, first, primary education for all, with a small proportion of people receiving more extensive education, and then a gradual expansion of secondary and higher education. Little attention was given to systematic adult education by the public education authorities of most countries. Adult education was generally left to voluntary agencies, and the usual model for educational development by the public education authorities was that of gradual linear expansion starting from childhood and working upwards.

Social change invalidates traditional assumptions

The falsity of such assumptions was most forcefully brought to the attention of western thinkers by the societal developments that led to the First World War and its aftermath. Dewey had shown the necessity for continued learning if men were to attain their full stature; and the need for facilities to make this continued learning possible was recognized by some educators. In a far-sighted analysis of social change immediately after the First World War, the Adult Education Committee of the Ministry of Reconstruction of the United Kingdom described adult education as "a permanent national necessity, an inseparable aspect of citizenship". It concluded that the opportunity for adult education should therefore be "both universal and life-long". (3)

Nevertheless, in the allocation of national resources for the provision of education, priority was still given to childhood and adolescence and to the highly selective area of university education. National policies continued to aim at completing the infrastructure before attempting to erect much of the superstructure. And again it should be noted that this had the effect, not only of leaving the adults with inadequate educational opportunities, but also of obscuring the fact that much of the education of children and adolescents was based on false premises and needed radical reform.

(1) Richard W. Livingstone, Education for a World Adrift, p. 43. Cambridge, The University Press, 1943.

(2) S. G. Shapovalenko (ed.), Polytechnical Education in the USSR, Paris, Unesco, 1963. Ch. 1, "Marxist-Leninist ideas on polytechnical education".

(3) Great Britain, Report of the Ministry of Reconstruction Adult Education Committee, London, His Majesty's Stationery Office, 1919.

Over the past three decades, the unindustrialized countries of Latin America, Africa and Asia have begun epoch-making efforts to accelerate their economic, political and social development. Taking as their model the countries that had entered the industrial phase earlier, they have seen in public education one of the major instruments of progress. However, they have tended to base their efforts on the invalid assumptions of the century-old school systems of Europe and on a linear model of expansion, at the very time when the scientific and technological explosion had shattered these assumptions and the population explosion was undermining the possibility that the linear expansion strategy would have time to succeed.

With the rapidity of change during the second half of the twentieth century, man's fate is now seen to depend upon the ability of people who are adults, or who will shortly be adults, to bring mankind under control both in numbers and in quality. Few of the leaders of the developing nations can any longer accept the prospect of waiting 50 years or more to have an adult population that is sufficiently well educated to achieve their economic and political objectives. Dieuzeide has succinctly stated the position by pointing out that attempts to meet the demand by linear expansion are financially illusory and pedagogically outdated, and that the human and material resources available to education will have to be redistributed in more productive pedagogical patterns.(1) At last, then, the conditions are ripe for a widespread realization of the need for a new perspective as regards the provision of education in developing countries. In the more advanced countries, too, the time is propitious, for the speed of technological and social change means that few adults can adequately fulfil their rôles with merely the education they completed a decade or more earlier.

Of fundamental importance is the conclusion that what is needed is not merely more adult education added on to the existing provision for children and adolescents but rather a reconstruction of all the different parts of the whole system. It is now possible to construct an educational model built upon the sounder assumption that learning should be a life-long process, culminating during the years of adulthood rather than ending at its threshold. Such a model will require radical changes in the structures, functions, methods and content of education systems at all levels, and the implementation of a new model will almost inevitably call for new strategies on the part of administrators and new approaches to policy-making. The specifications for such a model can be usefully outlined under the headings of aims of education, needed educational provision, the organization of education, educational technology, administration and finance.

(1) Henri Dieuzeide, "Unesco and new techniques in education", Prospects in Education (Paris), 1:5-7, 1970.

Part II

SPECIFICATIONS FOR A GENERALIZED MODEL OF LIFE-LONG EDUCATION

1. FUNDAMENTAL AIMS OF EDUCATION

In its broadest terms the aim of educational institutions, as it should be of all institutions, is to help people to live satisfying lives. To realize such an aim calls for an understanding of the needs of human beings for personal fulfilment within the various circles of the community in which they lead their lives, and some appreciation of the demands made upon them by the conditions of life. More specifically, in the modern world, both for modernized societies and for societies that are in the process of modernization, it calls for the provision of certain conditions in the domains of work, social and political activity, and private life. Vocationally, effective participation in the modern world requires versatility in the face of changing working conditions. Socially, it requires the capacity to understand issues of common concern at all levels of community and political organization, and to share in the policy-making process in whatever ways are relevant to the various circles of community within which every person lives. In private life, it implies opportunities for achieving the satisfaction of individual physical, social, spiritual, intellectual and aesthetic needs.

All of the aims of education for individual human beings are applicable, when stated in their most general terms, in childhood and adolescence. Since the underlying aim of life-long education is to improve the quality of living, all those main avenues of human activity and thought and feeling that are relevant to living at any given stage of a person's life will in some way be relevant to his education. The specific activities that can be carried out by an individual will differ according to the particular stage of growth he has reached at any given age. Similarly, at different stages of growth, there will be differences in the specific knowledge, skills, appreciations, attitudes, and beliefs relevant to the particular transformation of experience that any individual will be carrying out. At each stage, then, the educational aim will be to provide for those activities that are conducive to living a full life, that is, a life whose quality is continually enriched by the experiential environment in which it is lived.

This brief document is not the place to make an extensive examination of the aims appropriate to each different phase of the educational process. There is no lack of this in the extensive literature of education(1). What is especially pertinent here is to note some aims that will be especially important in the context of life-long education. First, the education of childhood and adolescence now needs to aim at producing not educated people but educable people, people who have both the capacity and the incentive to continue their education throughout their lives.

It will aim at producing people who are able to choose and control as far as possible their own course of development and who, therefore, will need to have a breadth of experience as a basis on which to make those adult choices of vocation and life-style that so profoundly influence their subsequent lives. It will aim, too, at producing people who are adaptable in changing circumstances, who realize the provisional nature of knowledge, the tentative nature of decisions, and the need for constant evaluation of the results of their actions. Such people need to have the confidence to try new things without undue fear of making mistakes, but with the wisdom to be willing and able to judge the consequences of their choices and hence to learn from them.

The aims of education as set out in a highly generalized form in the preceding paragraphs are fundamental, in the sense that they largely transcend particular circumstances of time and place and emphasize the individual human being, the quality of whose life it is the ultimate purpose of human institutions to enhance. The maintenance and improvement of such institutions pose their own

(1) E.g. in W.F. Connell, R.L. Debus, W.R. Niblett (editors), Readings in the Foundations of Education, Sydney, Ian Novak, 1966.

educational demands, however, and these give rise to educational aims stated in societal terms rather than in individual terms. They concern such matters as the provision of adequate manpower for the economic enterprises of a community, the inculcation of respect for the laws of a society and for the duties and rights of citizens, the maintenance of national and ethnic cultures, the support of existing political and economic institutions, the defence of national sovereignty, and so on. Publications of Unesco provide a vast body of documentation on the contemporary formulation of societal aims[1]. At the general level required for a conceptual model, both individual and societal aims will be kept in mind when we consider the kinds of educative experience to be provided for individuals in the perspective of life-long education.

(1) E. g. Unesco, World Survey of Education, Vol. 5.

2. LIFE-LONG DEVELOPMENTAL NEEDS AND EDUCATIONAL PROGRAMMES

Basic dimensions of life-long education

A comprehensive model for life-long education needs to start with two basic dimensions: first, the span of a human lifetime, and second, the range of human behaviour. Each of these dimensions is a continuum; but for simplicity in thinking they can be divided into stages and categories when distinctive differences are perceptible within them. Different approaches to such categorizations exist, with different advantages and disadvantages for different times and situations. In many countries school curricula are already based on such schemata. All that is needed here is to point out the importance of developing these two basic dimensions of a model, and to give illustrative examples.

With respect to the first dimension, the commonly accepted stages of development of infancy, childhood, adolescence and adulthood, provide a starting point. Each can be sub-divided, but for our purposes it will be quite enough to leave the first three in their usual form. The complexity of the period of adulthood, however, has been insufficiently recognized. It is five or six times as long as any of the others, and can be usefully divided into phases based on the distinctive developmental tasks of the different decades(1).

With respect to the second dimension, we may note that there are various ways in which human activities can be categorized for educational purposes. From the point of view of the psychology of learning, a distinction is commonly made between cognitive learning, that is, the acquisition of knowledge and skill, and affective learning, that is, the acquisition of attitudes, interests and values(2). Such analyses are valuable at the level of micro-analysis of teaching methods and the learning process. However when a general organizational model is being outlined, a macro-analysis is more relevant, using broader societal or cultural categories, such as the areas of economic, political, scientific, technical, social, aesthetic and religious activities(3). Such an analysis will be used for this model.

Stages of development and developmental needs

All aspects of human development are present in some degree at every stage, but different emphases occur, and these give a certain distinctiveness to periods of growth. Some of these emphases are based on individual growth factors, such as the onset of puberty, but mainly they depend upon the kind of society that people grow up in. The complexity of a society and the level of its economic and technological advancemement play an important part in determining the operative stages of individual development, especially those following puberty. The simpler the society the shorter the pre-adult period. Different societies, then, tend to have their own distinctive phases of development, and their education systems need to take account of this. For the purposes of this model we shall take a sequence that seems likely to be applicable to modern industrial societies and to societies that are entering the industrial era or are being modified by their contact with the industrial world. There are undoubtedly societies for which the stages outlined here are not completely valid(4).

Infancy

In infancy the basic control of bodily functions occurs, psychomotor skills required for immediate self-preservation develop, fundamental language patterns are acquired, basic perceptions of the external world are built up, social relationships are established within the family or equivalent human group, and concepts, attitudes, and values come into being which will long continue to influence the individual's view of man and society.

Childhood

In the period between infancy and puberty a wider socialization of the individual takes place as, with an increased ability to care for himself, he lives a large part of his life in the company of his peer group and of adults other than his parents. Cognitively, childhood is a period of rapid expansion of the horizons of the external world, of active and imaginative play at all manner of adult occupations,

(1) Robert J. Havighurst, "Changing status and rôles during the adult life cycle: significance for adult education." In Sociological Backgrounds of Adult Education, Ed. Hobert W. Burns. Chicago, Center for the Study of Liberal Education for Adults, 1964.

(2) H. H. Frese, Permanent Education in the Netherlands, Strasbourg: Council for Cultural Cooperation of the Council of Europe, 1970.

(3) R. S. Peters, "A recognizable philosophy of education, a constructive critique", in Perspectives on Plowden, p. 5. London, Routledge and Kegan Paul, 1969; an example will be found in Melvin R. Levin and Joseph S. Slavet, Continuing Education: State program for the 1970's, p. 43. Lexington, Mass., D.C. Heath, 1970.

(4) Margaret Mead and Martha Wolfenstein (eds.), Childhood in Contemporary Cultures, Chicago: University of Chicago Press, 1955; Alfred Kroeber, Anthropology Today, Chicago, University of Chicago Press, 1953; Hilda Taba, "Educational implications in the concept of culture and personality", Education and Leadership, 15:183-6.

and socially it is a period when friendships and group loyalties grow up within the circle of direct face-to-face social contacts. It is a period when activities and interests are continually enlarging.

Adolescence

In adolescence, when physical maturity is being reached although the tendency in modern societies is to postpone the adult rôle for several years, the search for personal identity and the perception of the necessity for developing one's own life-style are distinguishing characteristics. This process involves the gradual specialization of interests, the formulation of personal ideals, the intensification of direct friendship and love among an intimate circle of people, and the expansion of indirect group sentiments to include a wider circle of community, a whole nation, humanity in general, or all living things.

Adulthood

In early adulthood, the period that starts when full-time employment begins and may be arbitrarily regarded as continuing throughout the decade of the 20s, the main tasks are choosing a mate, making a home, raising children, and finding a satisfying and permanent vocation. One of the major educational aims in this period will be to obtain educational qualifications relating to the search for the most suitable employment. Depending upon the amount of formal education already completed, members of this age-group may require programmes ranging from functional literacy and occupational training, through preparation for elementary and secondary school qualifications, to advanced university degrees.

The period of the 30s is the one in which the major educational interests relate to vocational improvement within the field of employment chosen earlier or the achievement of social mobility through vocational retraining and the finding of better employment, to the improvement of the home and care of a growing family. Serious participation in community affairs commonly begins in this period.

Middle adulthood

Middle adulthood, the period of the 40s and the 50s, sees the consolidation of the major life rôles already developed. In occupations based on scientific knowledge and technology there will be continuing need of professional education for workers at the higher levels and for the retraining of employees at lower levels, as new processes are developed. At the same time, especially among those people who have reached relatively advanced levels of general education, an increasing interest is shown in supplementary education for the personal cultivation of the arts, music, literature, philosophy, religion, public affairs, and many other fields not related to their vocations.

With the advance of technology, too, the hours and years of work required from people at this stage of life will tend to be steadily reduced, and social and cultural activities increased. This is a field in which educational demands may be expected to grow rapidly in technologically advanced societies.

Late adulthood

In late adulthood, the 60s and beyond, we find a major concern for the ending of the working life and the cultivation of interests that will enhance the quality of life in the years of retirement and old age. This is a period for which increasing provision will be required in the future as scientific research and improved medical care permit an increasing proportion of people to live many years after their working lives are over. It is a period, too, which may begin earlier and earlier, as technological progress enables working lives to be shortened.

Sequence of educational programmes

In planning educational programmes for people throughout their lives certain general considerations need to be observed. The first is that there will be a progression from all-inclusive child care to almost complete adult autonomy in the educative process. The young child has to be protected, and taught all the things necessary for his self-preservation and physical well-being until the stage is reached when he can look after himself well enough to move about independently and safely beyond the bounds of his home. For several years, therefore, educational provision for children needs to be combined with child care.

The amount of time that needs to be devoted by educational agencies to the child-minding function will depend upon the extent to which the family or other social groups can carry this responsibility. This in turn depends upon the kind of society involved. If the nuclear family is the dominant family type but both the father and the mother go to work, educational and other child-care agencies will need to provide supervision for the child during the working day, and for all the consecutive days of the working week. Societies will differ greatly in their child-care needs, and within any given society family circumstances similarly will vary greatly.

These two components, education and child-care, can be considered independently in the organization of educational provision. The scope and sequence of the educative experiences most appropriately provided by schools will determine the minimum amount of time that the young person will need to attend school. This will probably be very much the same for most children in the earlier years, but will certainly vary in late adolescence as some take up full-time employment and adult responsibilities earlier than others. On the other hand, the maximum time needed will vary for different children

depending upon their circumstances. It may range from only a short period daily at school to full-time care in a boarding school. The difference between "full-time schooling" and "part-time schooling" is, indeed, a matter of degree. It is important to realize that the distinction is relative, for with the technological and social changes that are now occurring, not only will "part-time" education become normal throughout adulthood, but during childhood and adolescence "full-time" schooling as it is now understood may take on more of a part-time character, as child-care needs are met in other ways and new agencies and media share the educational task.

Curriculum sequence

Common to all the various principles that underlie different approaches to the construction of curricula is the concept of sequence. Several types of sequential arrangement are in use, ranging from straight-line progression to a spiralling progressing, and these need not be elaborated here(1). What is important to note, in the context of life-long education, is that a longer time-span can now be envisaged than was possible when the prevailing view was that, during the childhood years at school, a child should be taught all that it was important for an adult to know. It is now possible to consider realistically the optimum period of life for including any particular set of educative experiences in the curriculum. The premature teaching of material that is beyond the experience and capacity of the learner can now be avoided.

Range of educational programmes

Certain general principles can be helpful in considering the wide range of educative experience needed during childhood and adolescence. First, a gradual specialization of interests and abilities will emerge from the all-inclusive provision of the earlier years. Secondly, the educative experience itself needs to be of such a nature that it will directly lead to an improvement in the quality of life of the children in their immediate environment. Thirdly, it should enable them to adjust themselves to changing environments and enlarging circles of community, and to play an active part in improving their conditions of life.

General and specialized education

The young child's educational programme will need to include a wide range of activities from which will develop the more specialized interests and abilities of later life. The importance of early learning, not only in the cognitive field but also in the field of social and emotional growth, is well recognized. The optimum development of special interests and abilities in later years depends to a large extent upon a comprehensive programme of earlier activities, for this helps to ensure a wise choice of specialization, and at the same time gives a broader perspective to the special studies.

Relevance to different environments

The central problem of educational programme planning for the childhood years and for early adolescence is that of the relevance of the curriculum to improving the quality of life in the environment in which the young people will live. This is a concern of curriculum planners throughout the world, and it need not be elaborated here. It will be enough to point to a few of the crucial issues and difficulties that have to be dealt with.

A problem that applies in nearly all countries today, no matter at what stage of development they may be, is that of the relationship between the special educational needs of élites and the general educational needs of all. Formal educational provision in all countries has usually placed most value on the development of those abilities and interests that are relevant to prestigious occupations and social rôles. In relatively static societies, different educational provision was often made for different social groups, and relevance was less of a problem. In the changing societies of the twentieth century with their democratic aspirations for social mobility, school systems include children who come from all parts of the social spectrum and who will enter all sections of society, yet educational provision is often directed mainly to the needs of various élites.

For those young people who have the ability and the background needed to benefit from such educational provision, the school system provides a ladder to the élite positions of their society. The system acts as a selective mechanism, not only in regard to the level of attainment reached by the minority of young people, but also in regard to the kind of educational programmes it provides. These have tended to emphasize, even at the elementary stage but more especially at the secondary stage, those activities most relevant to the few. The central questions, then, are these: what educational provision is needed by all children, and how is this related to the needs of those, fewer in number, who will go on to very high levels of achievement in special fields. These questions cannot be answered by merely providing for all children a curriculum based on the special needs of a minority. The social cost of providing irrelevant education is too high.

A further problem, which is a special form of the preceding one, is of particular importance in those developing countries where the great majority of the population must live by agriculture for many

(1) See for example, R. W. Tyler, Basic Principles of Curriculum and Instruction, Chicago, University of Chicago Press, 1959, and B. O. Smith, W. O. Stanley, J. H. Shores, Fundamentals of Curriculum Construction, New York, Harcourt, Brace & World Inc., 1957.

more years. Their development depends simultaneously upon two things: first, an improvement of productivity so that saleable surpluses will enable them to buy the products of industry, and secondly, a gradual movement of a proportion of agricultural workers into the industrial sector of the economy. The educational implications of this are that rural education needs to be relevant both to the improvement of the quality of rural life for the majority of the people and to the preparation of a smaller but steadily increasing number of people for non-agricultural employment, whether in rural or urban environments. In more specific terms, the tools of literacy, mathematics and other branches of academic learning have too often tended to be associated with urban white-collar employment, and in consequence young people have seen schooling as irrelevant to their rural lives and useful only to help them escape to the cities. A way out of this dilemma is indicated by the success of functional literacy programmes, which have shown that the tools of book-learning can be both a means of improving agricultural productivity and a preparation for other kinds of work.

In order to avoid the dangers just referred to, the following principle of curriculum construction should be followed. The curriculum should relate the tools of learning both to the children's need to understand their social and physical environment in its ever-widening circles outwards from their immediate community to the whole world, and also to the community's efforts to improve its conditions of life, efforts in which the young people should play an important part. The higher levels of scholastic achievement needed by the élites will require studies that reach levels of generality and abstraction transcending the concrete realities of the immediate local environment. Such studies, however, which occupy an important place in the curriculum of traditional secondary and higher education, should arise out of the more directly relevant studies needed by all people and should not displace them.

Range of educational programmes for adults

In any society that has reached a fairly stable phase in its development, the sequences of educative experience thought appropriate for its members are likely to be passed through by the great majority at similar periods of their lives. Stability, however, is not the condition of any of the societies of the twentieth century, whether developed or relatively underdeveloped, and in all present-day societies, there are large numbers of adults, both young and old, who have not completed an appropriate sequence of educational experience, appropriate to the changing conditions of life in which they find themselves. There are those who have not yet attained the barest minimum of literacy, who have never attended a school or who have attended for a few years only and, failing to continue, have lost what little formal learning they had. There are those who dropped out of school at various points, and those who were denied access to schooling at various levels because of a lack of facilities or because of selective restrictions on admission.

The most common reason for this situation in developing societies is that rapid social change requires the provision of new forms and new levels of education that cannot be provided fast enough to reach all people. This is especially true if the premise on which provision is based is that childhood is the time for education; for then school systems try to provide an education that will be effective a decade later, and ignore the mass of adults who are the ones immediately facing the changes in their society. Even in more slowly changing societies, a similar situation is faced by upwardly mobile adults from the lower occupational strata who left the school system at points deemed appropriate for their occupational level but who now seek to upgrade their education and their occupational training. They will represent a wide range of educational levels.

Moreover, individual differences in the speed of learning cause even those people who have passed through a school system to reach different levels of development, and their continuing education must recognize that they will recommence from different starting points.

A practical consequence of the wide range of educational levels that will be found among the adults of any modern society is this: simultaneous provision must be made for them at almost all points in the sequential development of the curriculum from initial literacy to the highest levels of learning. In the past there has been a tendency to regard such variations in educational level among adults as final, and little provision has been made by which the interrupted sequences could be recommenced. One of the basic principles that will need to be applied in the organization of life-long education is that people should be able to re-enter the educational system at the appropriate point at any time in their lives.

Most countries have a need for some degree of educational provision at all points in the range. Even in the most highly-developed countries, for example, there will be some adult illiterates, people who may have been to school as children but failed to learn, or immigrants who have had no schooling. At the other extreme, even in the least developed countries there will be people in the technologically advanced occupations who will require opportunities for continuing education at a high level. The amount of each kind of provision needed, and its urgency, will vary from country to country, however, and detailed quantitative estimates are needed when a generalized model is being elaborated into a specific operational plan.

For young adults, from the age when they are ready for full-time employment until the beginning of their thirties, the following kinds of programmes

will be especially relevant: general education, ranging from functional literacy and basic general education to elementary and secondary school equivalency programmes leading up to higher education; vocational education, ranging from basic on-the-job skill training in all kinds of occupations with low-level skill entry to upgrading programmes aimed at preparing workers for more skilled work; home-centred education, ranging from basic nutrition and child care to household budgeting and home finance; citizenship education, as the adults get seriously involved in the economic and political affairs of the community.

In the next period of adulthood, the thirties, vocational education remains prominent and will require programmes for the upgrading of skills in all fields of work to keep up with technological advances. Vocational retraining is likely to be increasingly emphasized as new occupations replace the older ones.

In the middle years of adulthood, the forties and the fifties, with increasing health and longevity, and shorter working hours, more and more people will want to improve the quality of their personal lives through avocational activities. For these a comprehensive programme of cultural education will be needed. The importance of programmes for older adults preparing for retirement will undoubtedly increase steadily.

To some extent all of the above needs occur at every age. The stages indicate changing emphases in adult interests that are likely to affect the distribution of enrolment in various programmes.

Functional literacy

Unesco has long seen the abolition of adult illiteracy as the world's major educational task. For the full development of the man, the worker and the citizen in the modern world, literacy is the foundation. In spite of the progress of elementary education, however, the number of illiterate adults is increasing, owing to the population explosion and the current inability of many school systems to expand rapidly enough and to teach their students effectively. Expansion of the elementary education systems of the developing world might achieve the goal in a half century, but developing countries in the modern world cannot afford to wait so long for their people to attain the level of education required for a sustained economic and social development(1). Development is needed now, and it is the work of adults. Adult literacy programmes are still the major priority in any scheme of life-long education for the developing countries.

Many past attempts to abolish illiteracy have failed, not because of the difficulties of teaching adults but through an inability to maintain motivation by showing the relevance of literacy to life, to provide a continuing flow of suitable reading materials, and to develop a literate ambiance. The concept of functional literacy seems to offer the greatest hope for rapid success(2). This concept implies that literacy teaching is integrated into projects for the social and economic development of a community. The importance of the development projects brings motivation, and the clear perception of the relevance of literacy as a technique essential to the development process ensures that literacy is meaningful. In the formulation of programmes, the developing countries will be able to benefit from Unesco's intensive Experimental World Literacy Programme which in 1969 launched pilot projects aimed at evaluating the relationship between functional literacy and economic and social development at incorporating the functional concept into national literacy programmes, and at introducing pedagogical, methodological and technical innovations into the educative process(3).

Elementary and secondary education for adults

Beyond the level of literacy normally achieved by children in four or five years of elementary schooling, an increasing number of citizens in all countries need higher attainments. In developed countries the minimum standard for successful functioning is now generally regarded as that which is reached by children, on the average, in eight or nine years; and ten to twelve years of schooling are increasingly required for a wide range of occupations. Again, the individual and social cost of waiting for a gradual increase in the proportion of educated adults emerging from the regular school systems is too high for either developed or underdeveloped countries to tolerate. Extensive programmes are needed to permit adults with the minimal attainment of literacy to reach higher levels and to gain whatever qualifications they need, either for their immediate use or to give them access to institutions of higher education or higher vocational training.

It should be emphasized that this does not mean that adults should follow the same course of schooling as is provided for children, even when the aim is to give them equivalent qualifications. In learning the fundamental skills of literacy, for example, the content of their reading will be designed for adults, not for children, and they will learn much more quickly. This applies at the higher levels of elementary and secondary education also. The nature and the length of adult programmes must be determined by the needs and abilities of adults. In particular, great care should be taken to ensure that the educational requirements for access to higher education or to specialized vocations are really valid, and are not arbitrary and unrelated to the real needs.

(1) World Conference of Ministers of Education on the Eradication of Illiteracy, Teheran 1965. Report, Paris, Unesco.
(2) Bulletin of the Unesco Regional Office for Education in Asia. 5:10, March 1971.
(3) Unesco, Literacy Newsletter, 1971.

On-the-job training

Basic on-the-job training in some form or another is needed in all occupations. Schools can provide general knowledge and skills for many occupations, but the specific processes to be carried out in a particular occupation call for specific training. Especially in those occupations subject to rapid technological advances and in which innovations in methods and equipment occur constantly, systematic training programmes are required, not only to provide recruits with basic skills but also to improve the skill of employees at all levels.

The skills of management and supervision are especially important in the improvement of productivity, and these too need to be systematically developed. In the rural areas of developing countries especially, small industries are of great importance, and the need to improve the education and skills of workers in these industries is very great. Again, not only technical skills are needed, but also the qualities of mind that will enable the manager and supervisor of small enterprises to adopt innovative practices to improve the efficiency of work.

The upgrading of occupations

In times of rapid technological advancement the need for people capable of carrying out new forms of work is urgent. It can most expeditiously be met by on-the-job training of adults. All vocational fields can be involved, from the trades and industrial occupations to the service and professional occupations. From repetitive machine work to high-level scientific and technological activity there is a wide range of intermediate occupations. What is needed is a flexible system by which adults can enter a particular field at various points in the range of skills, and have access to appropriate training programmes. For example, widespread expansion in educational provision or in community medical services could be achieved in many countries by a rational reallocation of functions and responsibilities which would allow much of the work to be done by relatively unskilled recruits. Basic on-the-job training for such work needs to be carefully integrated into a comprehensive programme that enables promising workers to develop higher skills and accept wider responsibilities.

On-the-job training in agricultural and pastoral occupations and in home industries in those countries where a large proportion of the population lives by subsistence farming, is a field in which much improvement is needed in order to increase productivity. One of the great educational challenges of the developing countries is to devise methods by which scientific advances can be brought to the fields and the rural homes and applied in the basic training of new workers.

Refresher training

In all occupations new knowledge is changing technology, and even in those for which adequate pre-service training programmes exist it can no longer be assumed that the formal qualifications for entry are a guarantee that life-long competence has been achieved. The learned professions have always recognized that their members must keep up with scientific advances, and their own organizations have devised methods of continuing education(1). This need has intensified in recent years and has spread to all occupations. It has been estimated that half of the scientific knowledge basic to modern professional work is being revised every decade(2), and the implications of this are that basic professional qualifications will soon be regarded as merely the beginning of life-long post-graduate education in many fields.

Occupational retraining

With the advance of technology many occupations change profoundly as regards their importance to the economy. The proportion of agricultural workers and of unskilled and semi-skilled industrial workers tends to decrease steadily, and in some cases this decrease is so rapid that large-scale unemployment is caused among mature workers. To cope with the problems of such technological unemployment, systematic provision for retraining is required, based upon the changing demand for skills. The continuing need for such provision is made clear by the current estimate that workers now entering most sectors of the labour force of industrialized or industrializing countries may have to learn a new skill three or four times in their working lives(3). There is, moreover, no doubt that adults can learn new skills satisfactorily(4).

Home-centred education for adults

Scientific knowledge applied to home-making is capable of dramatically enhancing the quality of living. The young home-makers are the ones who have the motivation and the opportunity to use such knowledge in the field of nutrition, from careful marketing to proper food preparation, in the field

(1) Cyril O. Houle, "Continued professional education". Ch. 3 of F. W. Jessup, (ed.), Life-long Learning, Oxford, Pergamon Press, 1969.

(2) Torsten Husén, "Lifelong learning in the educative society", International Review of Applied Psychology, 17: 87-99.

(3) E. Neymark, Selektiv rörlighet (Selective mobility), Stockholm: Administrative radet, 1961.

(4) Eunice and R. M. Balbin, "New careers in middle age", a paper presented at the Seventh International Congress of Gerontology, Vienna, June-July 1966.

of child-care, from the provision of proper physical care to fostering emotional health and stimulating intellectual development, in the field of house building or improvement or of home financing, in the field of budgeting the family's finances, and so on. Provision for the needs of young adults in these and many other areas is one of the major sectors of a scheme of life-long education.

Citizenship education

The more mature adults, in their increasing involvement in the management of community affairs at the local and national level, will have to develop their understanding of political, economic, juridical and other social issues. The educational provision required ranges from sources of information of a sociological, historical and philosophical nature to opportunities to acquire skills of discussion and decision-making related to community activities.

Culture education for adults

Adults in their middle years develop an increasing interest in, and need for, leisure-time activities of a cultural nature. With greater economic security, shorter working hours and longer, healthier lives, the opportunity for enhanced cultural life will become available to more and more people. Making appropriate educational provision for continued cultural development will become one of the most important functions of society in the future.

In its broadest sense, the purpose of educational organization for life-long learning is to give every individual, irrespective of age, place of residence, economic and social circumstances, and race or ethnic group, access to facilities that will ensure *his continuing development.*

The conditions of social change during the nineteenth century in the industrializing countries of Europe led to the creation of public elementary and secondary school systems for the masses, and the concept of "schooling" became almost synonymous with that of "education". In consequence, it was a common assumption that the creation of an educated society depends on the expansion of school systems conceived in the nineteenth-century manner. The vast changes in the media of communication of the post-industrial era, however, have re-emphasized the educative potentialities of many other social agencies besides the regular school systems, and in the context of life-long education the contribution of all of the educative agencies of society should be assessed. Such an assessment would take into account the aims of education for different periods of life, and the appropriateness of various types of educational agencies at the different periods.

The educative society

The social environment itself is educative, through its varied manifestations, ranging from informal contacts to structured institutions and agencies created for specific objectives. The purpose of society itself is to improve the quality of human living, and today, more deliberately than ever before, conscious efforts are being made to judge the value of all institutions by their effect on the quality of life.

The concept of the educative society parallels that of life-long education. In some way or other every individual, at any stage of his life, is affected by the society in which he lives. However, at some periods of life certain social agencies are more important than others. For example, the school is more important in the life of a child than the trades union or professional association that may be a powerful factor in the continuing education of the adult worker. In organizing the educative facilities of a society for life-long learning, then, the potentiality of all agencies must be taken into account, as well as their particular relevance at the various stages of development of members of that society.

Associations and facilities

The variety of educative agencies in a complex society makes it necessary to adopt some classificatory system in order to simplify the process of analysing the organizational problems and possibilities. The first distinction to be made is between "associations" of people for specific purposes, and material "facilities" created for specific purposes. This distinction is important, especially because linguistic usage often leads to an identification between the two. For example, the words "school", "church", "academy", may be used to mean either the association of people joined together for a certain purpose or the buildings and other facilities used by them for that purpose. Sometimes the common use of a word to refer only to the facility obscures the fact of the human association behind it. For example, words like museum, art gallery, factory, library, may need to be complemented by terms such as "museum association", "industrial enterprise", to make it clear that there is a human association behind the material facility.

The next distinction is between those associations and facilities that are created specifically to provide educative environments, and those that have other primary functions. In the first category would come schools, churches, museums, libraries and research laboratories. In the second would be commercial and industrial enterprises, the apparatus of government, political organization, trades unions and professional associations, and sports clubs. Participation in any human enterprise can be educative, of course; the distinction here is between those that are specifically designed for educational purposes and those that have other primary purposes. The second kind of association often provides educational facilities and carries out educational programmes, but these are secondary to its main functions. The first kind of association, on the other hand, often provides for activities that are not primarily educational, but such activities are peripheral to its main purpose.

Schools

A further distinction can be drawn between associations and facilities that are mainly concerned with the systematic provision of teaching, of controlled and guided learning, and those that, like libraries and museums, simply provide an environment in which learning may take place. Agencies specifically established for the provision of controlled learning are usually termed "schools", whatever kind of association establishes them, whatever subjects are taught, and for whatever age group they may be intended. Many kinds of associations - for example, churches and industrial enterprises - may organize and maintain schools, whether or not this is the prime function of the particular association.

Formal education systems

It is usual to distinguish further between the formal education system of a nation and a wide variety of peripheral schools and other educative agencies. The formal education system is usually defined as comprising those schools maintained and controlled by specifically educational associations, whether

public or private, which between them provide a co-ordinated progression of teaching and learning experiences, of instruction and studies, conducted by qualified members of a teaching profession, and preparing their students to receive a sequence of certified qualifications for further education or for the practice of occupations requiring accepted levels of knowledge and skill. Commonly, the sequence of elementary and secondary schools, vocational schools and institutions of higher learning, such as the universities, has been thought of as comprising the formal education system. The concept of life-long education, however, requires us to recognize the complementary functions of all educational agencies as part of a total system, co-ordinated both vertically and horizontally.

This entails assessing the contribution being made by schools outside the formal school system, and by other educative agencies and media that can hardly be termed schools. It also entails a consideration of the functions of alternative and even competing agencies which arise when people are not satisfied with the education provided by the formal school system.

While both formal and non-formal agencies must be included in a comprehensive model, they do have distinctive functions. The formal school system is specifically designed to provide a continuous, integrated sequence of education leading from infancy to adulthood. Because of the complex organization required for carrying out this responsibility, the formal system provides the most powerful machinery for bringing about a closer relationship between itself and all the other educative agencies of society.

The very power of formal school systems, however, presents a serious problem. They can be rigid and stultifying, discouraging deviations from accepted practice and obstructing innovation. They have been subject to much criticism recently on such grounds[1]. Nevertheless they exist, and their vast resources in teachers and facilities cannot be wished out of existence. The realistic policy is to make use of their strengths and to reform them in the process. A powerful means of reform will be the very process of co-ordinating the formal system with the valuable complementary activities of alternative schools and informal agencies, provided that the distinctive educative contribution that these can make is recognized and their proper areas of autonomy and independence are respected. The flexibility of the education system of the United Kingdom, for example, and the complementary rôles of public and private school systems in several countries, show that such a policy is practicable[2].

Transition from formal to non-formal agencies

The nature of the relationship between the formal school system and non-formal agencies will vary at different points in the life cycle, and there are certain general considerations that can be used as guidelines when such relationships are being brought about. In the first place, during the course of a lifetime there will be a gradual transition from the earlier years, during which the formal school system will carry most of the responsibility for the child's education, to the later years when the adult will be himself responsible for continuing his education and will do this mainly through the various non-formal agencies and media. It will be one of the important functions of the schools, in the context of life-long education, to provide such guidance as will enable young people to learn how best to use the resources of the community to further their own development.

In the early stages, the formal schools should themselves be idealized epitomes of the society in which they are situated. They should have their own miniature versions of the main non-formal educative resources of the community, such as libraries, museums, art collections, music collections, workshops, and so on. At a later stage their students should progressively be taken out of the confines of the school to learn how to use the community's wider resources, which should then be increasingly used by the students for their self-education. Close co-operation is needed between the staffs of the schools and the staffs of all the cultural agencies of the community. In the vocational sphere in particular, the major part of education and training should take place in close association with the productive enterprises and service organizations of society.

Differentiation of interests and abilities

A transition will also take place from the earlier phases of schooling which attempt to provide a broad education that opens up to the child all the main cultural riches of mankind, to the later phases in which emphasis is placed upon areas of experience that correspond to the growth of individual interests and abilities and to fields of vocational specialization. As this differentiation intensifies in adulthood, the agencies of formal schooling will be increasingly concerned with advanced vocational education and training, while the continued general education of the adult will tend to fall increasingly within the sphere of the non-formal cultural facilities and the media of mass communication.

(1) Ivan Illich, Deschooling Society, New York, Harper and Row, 1971; Everett Reimer, An Essay on Alternatives in Education, Cuernavaca, Center for Intercultural Documentation, 1971.

(2) England, Central Advisory Council for Education, Children and their Primary Schools, London, Her Majesty's Stationery Office, 1967 (2 vols.); Charles E. Silberman, Crisis in the Classroom, New York, Random House, 1970.

From full-time to part-time schooling

Parallel with the gradual change in emphasis from schools to the non-formal agencies, there will be a transition from the period of full-time schooling to the period of full-time employment. Schooling and work have been sharply separated in the past century of public education: childhood was the time for school, adulthood the time for work. In the new perspective, this sharp separation is being abolished. During the later years of formal schooling a practical induction into the world of work is desirable, and a continuation of some formal schooling and much non-formal education during the working life is a necessity. How to achieve this transition in practice is one of the major problems of vocational education.

General and vocational education

In industrialized societies it is now generally recognized that workers need great adaptability and a capacity to learn new principles and procedures. Essential to the development of such qualities is a general education on which specific vocational skills can be based. As an indication of the minimum levels of educational attainment on which specific skills can satisfactorily be based, we may note the following commonly used guidelines[1]: for semi-skilled and skilled work, the level normally reached by children after five or six years of elementary education; for supervisory personnel, the equivalent of three years of junior secondary education; for technicians, the equivalent of three or four years of senior secondary education; and for professional personnel, four to six years of higher education. Again, it should be pointed out that adults will take a shorter time than children, and will need different programmes.

Along with the general education that is intended to develop those areas of knowledge and skill, those attitudes and values, and those forms of social behaviour needed by all people, vocational education will be an increasingly important component of schooling. Vocational education will comprise the development of knowledge, skills, attitudes, and habits that are of general application within broadly defined vocational fields.

Vocational education and vocational training

The final component in the preparation of workers will be specific training in the particular skills and areas of knowledge required for specific vocations. It is generally agreed that vocational education is best carried out in the formal school system, while specific vocational training is best carried out in the places of work themselves. Schools can provide a diversity of vocationally oriented courses, which will not only enable students to choose their specific vocations wisely, but also teach them to be flexible and to adapt themselves to various specialisms within a general field of occupation.

Specific training for specific vocations, however, is best undertaken within the enterprises themselves, whether these are factories, workshops, offices, hospitals, schools, shops or farms. Neither general schools nor vocational schools can have the range of equipment used in the many vocations of the modern world. Nor can they keep up with the rapidly changing processes and procedures brought about by technological innovation. They cannot be expected to duplicate the factory or the farm, the hospital or the office, in their workshops, laboratories or classrooms. Nor can the schools provide the same motivation as can the environment of work. The workplaces themselves, therefore, need to develop facilities for the systematic specific training of their new workers in the most advanced technologies in use. The training methods will be varied. They will range from on-the-job training by skilled instructors to training provided in special educational facilities (schools) within the enterprises.

The integration of culture and vocation

Ideally, these three components of education - general education, vocational education and vocational training - should proceed together at the appropriate period of the young person's life. If they are separated in the old way, by having the young person complete his general education first and then proceed to specific training, the following difficulties arise. On the one hand, the content of general education may then appear irrelevant to the adolescent, who is strongly motivated to begin his vocational preparation and enter the adult world of work, and it may encourage bookishness and an overvaluation of the white-collar occupations. On the other hand, specific vocational training undertaken at work after formal general education has been completed, may be too narrowly specialized and inhibit the growth of the adaptability that changing technology requires. A crucial problem of vocational preparation, then, is how to integrate the three components in the development of young people.

Such an integration of the cultural and the vocational will be an essential part of the model for the organization of life-long education. It will be achieved by linking together the formal and non-formal agencies of education in such a way that they can act together with a consistency of purpose from the earlier phases of full-time schooling, through the later period when school time diminishes and

(3) United Nations Economic and Social Council, Training for National Technical Personnel for Accelerated Industrialization of Developing Countries, New York, United Nations, 1964.

time at work increases, and during the whole period of the working life. To make such an integration in practice will call for an imaginative and flexible use of the resources of school and workplace and the wider community. It will require a radical reorganization of many of the existing relationships between the school system and the other sectors of society. Especially will it require the ending of the usual separation between school and work.

4. EDUCATIONAL TECHNOLOGY FOR LIFE-LONG LEARNING

Educational technology, in its widest sense, includes all the organizational arrangements, methods, materials, equipment, facilities and so on, used in education. It includes the media of communication, teaching techniques, instructional and learning aids, the annual school calendar and the daily time-table, methods of class grouping, the promotion of students and their certification, the prescribed curriculum, and in short all the means used in the educative process. It is not necessary in this paper to make a comprehensive statement about the use of educational technology, but it is appropriate to consider some implications for educational technology in relation to the concept of life-long education, and some implications of new methods and media for life-long education.

The new perspective

Of basic importance in considering technology is the rejection of a fundamental assumption of earlier times that children had to be taught what they would need to know as adults in a static and predictable society. With the new assumptions that opportunities for education will be available throughout a person's lifetime and that societies are constantly changing, what is most important is learning how to meet constantly changing conditions, learning how to find out what is relevant to new situations, in short, learning how to learn. This perspective has important implications both for the content and for the methods of education.

The content and methods of education

Schools are at last able to resolve a dilemma into which the earlier assumptions had forced them, namely, how to provide the learner with educative experience that will be relevant to his immediate growth needs and at the same time will prepare him effectively for the future. In the perspective of life-long education it will become possible to implement the principle that relevant learning is a process by which the learner changes himself by continually reconstructing his experience. As far as the content of education is concerned, this means that the schools can fully use the learner's natural craving to develop his maturing interests, skills and knowledge by constantly exploring his own inner and outer worlds. They no longer need to feel that they have to impose on the learner a curriculum considered relevant to the future rather than to the present. As far as the techniques of teaching and learning are concerned, this means that the schools can make more use of heuristic methods of inquiry and minimize the didactism that has too often brought about a revulsion against schooling.

A common misinterpretation of the new principle should be avoided. It is often said that the important thing is not what is learned but how it is learned, that the fundamental skills are more important than the knowledge and attitudes learned through their exercise, in essence that the form is more important than the content. This can lead to the practice of using any content, however trivial and meaningless, as a means of teaching the fundamental skills. It can lead to a dull routine which in no way illuminates the learner's immediate life. On the other hand, correctly interpreted, the principle will enable the learner to learn what he needs for his development when he needs to learn it, by methods appropriate to his level of development. The educational questions of when is the best time for people to learn certain things and what are the most suitable methods for learning them can be more rationally answered in the perspective of life-long education than in a foreshortened view of childhood education. Both the appropriate content and the form of learning can be more readily provided and more satisfactorily integrated in the perspective of life-long education.

A detailed consideration of the content of education goes beyond the scope of a general model. It is enough to point out here that the formal curriculum is universally determined by certain essential elements in human culture that are transmitted by societies to their growing members. The arts, science, technology, history, literature, philosophy and religions of societies have always been the staple subjects of the curriculum of educational agencies. Such subjects embody human experience, and they play the dual rôle of developing the individual through the transformation of his experience and of transmitting the culture of a society(1).

Many organizational practices of schooling have educative effects, and have for this reason sometimes been termed "the hidden curriculum". For example, we have the daily routine of adhering to a time-table, of sitting in classrooms under the control of a teacher, and of following certain rules of procedure, the exercise of discipline by the teachers, the arrangement of children into age groups, the evaluation of the progress of the children, the nination system, and so on. Certain aspects of such practices have long been criticized and yet have persisted in many school systems. Now, however, in the perspective of life-long education, they have a greater chance of being reformed, for the assumptions on which many of them rest can be seen to be no longer valid.

Continuous learning versus grade promotion

An outstanding example is the grade-promotion system, with its concomitant proportion of annual failure, repetition and drop-out. The rigid application

(1) John Dewey, Lectures in the Philosophy of Education, 1899, (Ed. Reginald Archambault.) New York, Random House, 1966.

of grade-promotion systems, in which the children in a given class are expected to learn the same things at the same rate and are either promoted to the next class or made to repeat the year's work, can now be seen to have been based largely upon the assumption that the school should be a selection and rejection mechanism for channelling people to different levels of a predetermined vocational and social hierarchy. The new perspective will enable the school systems more readily to adopt more flexible methods, substituting continuous learning for grade-promotion, allowing individuals to progress at their own learning rates, with neither failure nor repetition of classes in the earlier sense of these terms. Of great importance to developing countries is the fact that the concept of continuous learning opens the way for much more flexible approaches to the problem of providing for a wide range of ages in children in small schools in sparsely populated rural areas. Moreover, it will enable school systems to abandon the idea that a person's access to further educational opportunities must be terminated if he fails to reach certain predetermined levels of attainment at certain predetermined points in the course of formal schooling.

Certification

The concept of continuous learning does not require abandonment of the practice of certifying that the learner has attained certain specified levels of competence that either enable him to continue to higher educational levels or permit him to practise some particular vocation. It does, however, call for the abandonment of many arbitrary requirements restricting the age or stage of the learner's life at which a particular specification must be met, and restricting the educational channels that can be followed to earn a particular qualification. Such requirements in the past have often prematurely closed the doors of educational establishments to people who for one reason or another have not been able to meet them.

In the perspective of life-long education, adulthood will undoubtedly become the longest and the most important period for learning. It will become increasingly important, therefore, to develop content and methods of education that are appropriate to the needs of adult learners. Pragmatic, problem-oriented adults, leading their own lives, cannot be treated like dependent children. Even when adults are learning the basic skills of literacy that seven- or eight-year-old children are learning, they will need different materials, content and methods, suited to their more mature capacities and their deeper experience of life. The concept of functional literacy, which is so significant in its emphasis upon the experience and needs of the adult learner, can well be used, by analogy, to indicate ways in which all education for adults should be functional.

The same principle also applies to the certification of the educational levels reached by adults. It may be necessary for adult students to be awarded certificates testifying to their educational attainments at important points in their careers, such as the completion of basic education or secondary education, or the passing of examinations that give access to specialized types of higher education. Such certificates will be equivalent to those gained by young people in the course of their regular schooling. It will often be necessary, however, to modify both the content and the methods of examination or assessment in such a way as to make them suitable for adults.

Towards self-education

One of the principles underlying the planning of life-long education is that the growing person will become increasingly able to determine his own course of development through a process of self-education. Implicit in this principle is the conclusion, that formal schooling will gradually occupy a less important place in a person's life than independent learning, as the adult makes use of the non-formal agencies of education to be found in modern communities. These agencies may be facilities, such as libraries, museums, theatres, concert halls, factories and other workplaces. They may be new types of equipment, such as teaching machines, computerized data retrieval systems, language laboratories, tape recorders, or programmed textbooks. They may be the media of mass communication, such as the newspapers, the radio or the television. Whatever educational agencies exist in the community, it is important that during the course of formal schooling, young people should be encouraged to make increasing use of these resources for learning and steadily lead towards independence in their self-education.

Such a conclusion has implications both for school systems and for non-formal agencies of education. In the first place, the schools need to find the most effective ways of introducing children to the use of community facilities and the media. This requires a study of the contributions different agencies and media can make and the conditions under which they can be most effective at each stage of education in a given community. All too often schools have made ineffective use of new media by merely trying to superimpose them upon their existing programmes and methods instead of integrating them into new learning systems specifically designed to make the most of the new potentialities(1). The most fruitful introduction of new resources into a school system, however, will almost certainly require a reorganization of the existing technology.

In the second place, the non-formal agencies themselves need to be made aware of their potential rôle in life-long education, and should be given

(1) W. Schramm et al., The New Media: Memo to Educational Planners, Paris, Unesco International Institute for Educational Planning, 1967.

responsibility for making a sustained and continuing educational contribution to the life-long development of the members of their communities. Again, this requires a study of the appropriate contributions that the different agencies are capable of making, and the way they can most effectively work with the formal school system. Both in planning the nature of their programmes and in designing their facilities, many independent agencies of non-formal education should consider how they can best co-operate with the schools in the education of children and young people, and how they can best provide resources for systematic learning by adults.

5. THE ADMINISTRATION OF LIFE-LONG EDUCATION

Vertical and horizontal co-ordination

The systematic organization of programmes and facilities for life-long education will not only present greater opportunities but will also involve greater difficulties in policy-making and operation than have any of the more narrowly conceived and only partially co-ordinated education systems of the past. It envisages a vertical co-ordination between parts of the education sector that have often functioned in virtual independence, and it also envisages a horizontal co-ordination among all the educative agencies of the community, the regular school system being simply one of these.

Within the education sector itself, vertical co-ordination is needed between the administrative units that shape the policy of the pre-school health and educational services, the primary, secondary and vocational schools, higher education and adult education. In many countries these services have grown up in different ways, some of them almost completely separate from the others, and often the lack of co-operation among them has caused serious deficiencies in the educational efforts of a nation. Even within the education sector, policy-making has often been divided among different ministries, as for example when ministries of health, agriculture, transport, labour and the armed services develop their own educational programmes and establish their own schools. The horizontal co-ordination of such agencies of education at the highest levels of government has been the objective of many countries in recent years. Finally there is the need for co-operation between public and private agencies, without unduly restricting the autonomy of the latter.

Furthermore, life-long education requires co-ordination of effort between the formal education system itself and the external world[1], for example, between parents and teachers at the pre-school level, between schools, libraries, museums and other agencies of culture at the primary level, between schools and all places of culture and of productive enterprise at the secondary and higher levels, and between the media of mass communication and the schools and other agencies of education at all levels. As a result of the new perspective it seems clear that higher priority now needs to be given to the full utilization of the educational resources of the non-formal agencies.

Any model of an administrative structure appropriate for the control of a country's educational services will be based upon certain assumptions, and the main assumptions underlying the model proposed here will be explicitly, though briefly stated. These have not been arbitrarily adopted but arise out of an examination of world-wide trends in educational administration during the past three or four decades[2]. The trends themselves indicate the general direction of the changes which the nations of the world have been initiating in their efforts to build education systems that better satisfy their needs.

Centralization of general policy-making

First is the assumption that matters of broad general policy-making for the educational services of a country will reside in the highest organs of government of the country. This assumption is based upon the need to ensure that national resources are most effectively used and that all people are equitably provided for, irrespective of local or regional differences in wealth, economic activity, population density, socio-economic level, ethnic origin, or any of the factors that have tended in the past to give different sections of the population unequal educational opportunities when the major responsibility for educational policy-making was borne by local or regional authorities.

The rôle of a formal school system

Secondly, it is assumed that the major rôle in the co-ordination of all the resources of the community that are to contribute to life-long education will be played by an organized system of public schools. The public school system is the agency of the community that has been specifically created to provide a comprehensive and sequential education for all young people. It occupies a central position from which it can extend its activities into neglected fields such as adult education. It can be used to bring about a co-ordination of the education activities of other branches of government. It can initiate large-scale programmes for co-operation between public and private agencies of education and between the schools at all levels and the non-formal cultural, economic and social agencies. There is undoubtedly a danger that school systems, from inertia, will find it difficult to revise the priorities between formal and non-formal agencies and the national policy-making body should be so constituted as to avoid this danger. In spite of the manifest defects of existing school systems, however, the evidence does not show that they cannot be reformed and must be disestablished. Nor, if school systems were disestablished, is there any evidence to suggest that other agencies could maintain a viable system capable of providing equitably for the needs of all the people in a complex society.

Comprehensive policy-making bodies

Thirdly, it is assumed that the co-ordination of public and private community resources will require

(1) Philip H. Coombs, The World Educational Crisis, p. 126. New York, Oxford University Press, 1968.

(2) See, for example, the introductory chapters of Unesco's World Survey of Education, Volumes III and V; and the yearbooks of the International Bureau of Education, Geneva.

the establishment of comprehensive policy-making and administrative bodies that adequately represent, at the national and local levels, the various types of agencies involved in the provision of education. At the national level, the major policy-making and administrative authority should represent all relevant ministries or branches of government, and the national organs of the major cultural, social and economic associations and enterprises of the country. Similarly, at the local level, the policy-making and administrative authorities should represent the relevant government departments and all the major local associations and enterprises that will be sharing in the operation of educational programmes and facilities. Comprehensive bodies are necessary to ensure that the various sections of the educational services of a nation or community co-ordinate their activities and do not subvert the general aims by pursuing their specific objectives in an unbalanced manner.

Local policy-making and control

Fourthly, it is assumed that, in the allocation of powers and responsibilities to the administrative bodies operating at different levels, a basic principle to be followed is that the central authority will be responsible only for general policy-making, supervision and evaluation with respect to the provision and financing of the education system. The responsibility for detailed policy-making and for the actual provision and operation of public educational facilities and their co-operation with private agencies will be the responsibility of local educational authorities. This assumption is based upon the fact that the local schools and other agencies, both public and private, are the action units in the educative process and that their effective functioning will depend upon the local authorities being given adequate power to make and carry out operational decisions within the general policy norms established by the central authority.

Functions of the central authority

The central authority should be a representative policy-making body that can determine a consistent set of objectives covering the educational activities of all the participating interests, both governmental and non-governmental. Its major function will be to achieve a general consistency in the aims of education, vertically throughout all parts of the education system and horizontally among all the various co-operating agencies.

The central authority needs also to have a general supervisory function, to assure itself that the operational authorities at the local level provide the educational services in the quantity and quality required for the fulfilment of a nation's general policy objectives. This will involve the establishing of minimum standards for such crucial factors as the recruitment, training, qualifications and remuneration of teachers, the provision of buildings, equipment and materials, and the requirements for access to specialized educational programmes and for the certification of qualified practitioners in various occupations.

The evaluative function of the central authority involves comprehensive research into the general outcomes of the educational process and the relationship of these outcomes to the long-range objectives of policy and to the changing educational needs of the community in terms of its social, economic and cultural development. This evaluative function is necessary so that the central authority can effectively consider the ends and means of education and give general direction and support to the local agencies responsible for the provision of education.

The financial function of the central authority will be essentially concerned with ensuring that adequate financial resources are allocated efficiently in terms of national needs. The ways in which educational moneys are raised, whether by national or local taxes, by public or private endowments, or by allocations from industrial and commercial enterprises, vary from country to country; but whatever means of financing are used, the essential function of the central authorities is to ensure an effective and equitable provision of educational opportunity.

The central authority should allow the local authorities the maximum possible autonomy in the provision of education, consistent with the general national objectives.

Functions of the local authorities

For effective action, local education authorities should have comprehensive responsibilities and corresponding decision-making powers. These should include the provision, maintenance and operation of public educational facilities at all levels from pre-school care to adult education and should extend to the establishment and maintenance of close working arrangements between public and private schools and between the formal schools and all the non-formal agencies with which the schools will co-operate to use effectively all the educational resources of the community.

The local authorities will best be able to assess local needs and resources and bring about practical working arrangements between all the agencies concerned. With this knowledge, and with the motivation to innovate and to improve the educational opportunities of their own communities, the local authorities should be able to make their own decisions and to act accordingly, within the framework of general policy laid down by the central authority and with the resources made available to them. They should not have to refer operational details to the higher authority. Officers of the central authority will have to assess the degree to which the local authorities are satisfactorily achieving the goals of general policy, and they should be in

a position to provide technical and professional advice for the guidance of the local authorities, but they should not themselves make the decisions that are properly the function of the latter.

It will be noted that the model adopted here, providing for unified local control of all kinds of public education and co-operation between public and private agencies, differs markedly from the common hierarchical arrangement in which the establishments of higher education, secondary education and primary education are controlled by different authorities covering geographical areas of different sizes, from the national or regional level down to the town or county. Such a hierarchical arrangement has often been justified on the grounds that higher education has national or regional responsibilities, while primary schools have only local responsibilities. Such a distinction cannot be sustained.

Area of responsibility of the local authority

For the integration of the various levels in the formal school system, and for their co-operation with the other educative agencies of the community, the area under the control of a comprehensive education authority needs to be large enough to include as complete a range of facilities as possible, from infant care to general adult education. In areas of sparse population it may not be practicable to have specialized establishments of higher education such as schools of advanced technology and graduate schools of universities in every local unit. In most cases, however, a unit populous enough to include the more general faculties of a university will not be so extensive in area as to preclude effective control by one comprehensive authority. This will be increasingly the case in the future, for with the steady expansion of enrolments at the secondary and adult levels it can be expected that almost all young people will complete their secondary education and that the total number of adults of all ages who at any given time will follow educational programmes will ultimately exceed the secondary school enrolment(1).

Educational centres

The fundamental units for the provision of educational services will be educational centres. An educational centre will be an institution broader in conception than the traditional school. It will include the school, but the school itself will be transformed by its close working relationship with other community agencies. It will retain many of the teaching functions of the traditional school, but it will also be the centre from which the young people go out to learn from other agencies and to which they return for guidance in the assimilation of their wider experiences. It will have a professional teaching staff, but this too will be transformed by its close association with many other people in the community who will be sharing in the educational work of the centre. In carrying out its work, each centre will need to have a good deal of independent power to make appropriate arrangements with other agencies in its immediate community. It will need to have its own governing body, representing its teachers, its students and appropriate community interests, and this body should have considerable powers of decision-making, within the policy lines established by the comprehensive local education authority.

Regional education authorities

In large countries it may not be practicable to operate with the simple structure of one central policy-making and administrative authority and many operational local authorities. It may be advisable to have intermediary regional authorities. These might be policy-making boards, somewhat similar to the national board, or they might simply be regional branches of the administrative secretariat of the national board. The former pattern would be appropriate in cases where there were distinctive cultural differences that would require some differentiation in educational policies or in the provision of education in the different regions. The latter pattern would be appropriate in cases where there were no differences calling for distinctive policy-making, but where the sheer volume of communication between the local authorities and the central authority would be too great for efficiency. In such cases, regional offices of the central administration could deal with a great volume of routine matters such as the receiving and collating of reports, statistics and budget requests, the distribution of funds, the clarification of policy-decisions and so on. As in the case of the central secretariat itself, however, a regional secretariat should not itself exercise the power of operational decision-making.

Conflict avoidance

In the generalized ideal situation described in a systems model there will be no intrinsic reasons for conflict between the central authority that shapes the general policy and the local authorities that make the operational decisions and the practical arrangements for educational facilities and programmes. The central authority should be representative at the national level of the same interests as are closely involved in the educational process at the local level, and it should take into account the views of the local authorities when framing its general policies, setting standards, recommending budgetary allocations and so on. In practice, difficulties inevitably arise because of variations in the circumstances of different areas. Such difficulties will be minimized if the central authority allows as

(1) A. A. Liveright, A Study of Adult Education in the United States, p. 134. Brookline, Mass., Center for the Study of Liberal Education for Adults at Boston University, 1968.

much freedom as possible to the local authorities in their task of translating general norms into specific arrangements.

The responsibility of government

In modern societies, it is generally regarded as a major responsibility of the government to ensure that all citizens have access to adequate educational resources. This does not mean that the resources must be created, maintained or controlled by government, for many voluntary agencies have always undertaken educational activities. Non-governmental or private school systems can exist side by side with governmental school systems and can co-operate as well as compete with them. But whatever variations occur in the actual provision and maintenance of schools and other educative agencies, the ultimate responsibility now lies with government to ensure that they are appropriate to the needs of its citizens. This is a matter of ensuring that there is an integrated continuum of educational programmes and facilities comprising both those of the formal school system, public and private, and those of the non-formal educational agencies.

Conceived in this way, a government's task, while formidable from the point of view of organization, is lighter with respect to the financial resources it needs to allocate to education than it would be if it set out to provide all educational services itself. For example, a large part of the cost of vocational training can be borne by productive enterprises, to whose production the young trainees will be contributing by their part-time employment; and the additional staffing made available to public establishments such as hospitals, schools, libraries by the part-time trainees could help meet the cost of many government services. Moreover, by emphasizing its rôle in organization rather than in provision, a government can avoid the impasse which so many countries seem to have reached through attempting to solve their educational problems by a simple linear expansion of the formal school system. By making the fullest possible use of the existing educational resources of the community, wherever they may be found, and by supplementing them where they are inadequate, governments will be able to stimulate the development of complete systems of education going far beyond the traditional conception of schooling.

Part III

A MODEL AND ITS APPLICATION

1. CONCEPTUAL MODELS

The nature of a model

A model for an education system is essentially a "systems" model rather than a "process" model.(1) It shows in a generalized form the parts of a system and the organizational and administrative relationships that bind them together into a working unity. It is not a model of the educational process itself, but of the parts of a system designed to facilitate this process.

Furthermore, a conceptual model is not a detailed set of specifications that can be applied directly, with little modification, to a particular country. It is an abstraction, an ideal whole, the specific parts of which must be built in each country in accordance with the concrete social and economic conditions of that country. In a conceptual model, the general nature of the essential parts and their relationships can be outlined, but the concrete embodiment of the ideal form will inevitably be brought to realization in different ways in different countries.

The value of a conceptual model lies in the way it can be used as a guide in the drawing up of detailed specifications for a particular country. It is not a blueprint, but can be of value to those charged with the drawing of blueprints. A generalized model is possible because all countries share to some degree the same general needs for educational provision. The concrete expression of the needs may differ, and the emphasis to be placed on different needs will also differ from country to country and from time to time and these are the kinds of considerations that will make one country's system differ in practice from any other. Certain essentials will be common, however. An example will illustrate this point. Adult illiteracy is one of the most important elements of the educational situation of the developing countries, but adult illiteracy is also found in some degree even in the highly developed countries. Provision for teaching illiterate adults is therefore needed in all countries, and the emphasis on functional literacy methods in this model is based on Unesco's experience over the past years. What is functional in one society, however, may not be functional in another. While, then, the elements of a generalized model will be universal, concrete provision for them will differ greatly both in kind and in quantity from country to country.

At the present time the need for a new conceptual model is urgent, and especially so for the developing countries. Most of these have been trying to establish or expand education systems modelled essentially on those that were established for the children of the industrializing countries of nineteenth-century Europe. The inadequacies of such models have already been pointed out. Clearly the time has come for the developing countries to reshape their systems, rather than simply to struggle on by linear expansion to universalize among the children an inadequate model, leaving the most urgent needs of the adults relatively neglected. A new model, based on the concept of life-long education, will place emphasis on the neglected area of adult education, which is destined to occupy an increasingly important part of people's lives in the future.

The question may arise at this point, why is a new model necessary. Why could not the older models of childhood and adolescent education be retained, supplemented by new models for adult education? The answer, briefly, is this. In the first place, the same conditions which call for life-long education have brought about a demand for radical changes in the education of children and adolescents. Secondly, in the perspective of

(1) Ronald G. Havelock and Kenneth D. Benne, "An exploratory study of knowledge utilization", in Goodwin Watson (ed.), Concepts for Social Change, p. 50. Washington, D.C., National Training Laboratories, National Education Association, 1967.

universal provision for adult education throughout life, both the content and the methods of education for children and adolescents need radical rethinking. The present conception of the relationship between the formal schools and the non-formal community agencies and media of education itself must change, and this in effect means that a new conception of an education system must be developed.

Furthermore, with a generalized model of a system of life-long education as a guide, it will be possible to develop a strategy for reordering priorities, for immediately attending to those parts of the system most needing reform or expansion, without losing sight of the integral nature of the whole system.

2. AN ORGANIZATIONAL MODEL

In conformity with the assumption that a formal school system is needed to be responsible for co-ordinating the main educative agencies of the community, the essential elements in the system will be outlined, and the educational contributions of the other agencies will be viewed in their relationships to the central school system.

Infant-care centres

There will be two main types of centres for the care of infants during the period before regular schooling normally begins at the age of six years: (a) infant health centres, which provide pre-natal and post-natal advice and care till the age of three years; (b) infant educational centres, which may be attended full-time or part-time, for a varying number of hours per week depending on the needs of the infants and on whether the mothers are in full-time employment. The programmes will aim at the development of the physical and mental capacities of the infants, their gradual socialization through play activities, and their preparation for the more systematic learning activities of the primary school.

A close relationship must be developed between the work of the medical and educational staffs of the health and educational centres and the parents of the infants so that the two environments complement each other harmoniously. Participation by mothers and fathers in the daily activities of the centres, under the guidance of the professional staff, will ease the children's transition from the home to the school, and it can be a fruitful means of helping the parents themselves to gain a deeper knowledge of their developing children and thus to become better educators of their children.

Primary education centres

Primary education centres will provide for the years from six till fifteen, which have traditionally been the years of primary and junior secondary schooling. The basic function of the primary education centres will be to provide a general education for all children up to the point at which they make a provisional choice of future vocation and embark upon specific vocational education and training.

The period of primary education can be divided into various cycles, related to biological or social phases of development. Such phases are somewhat arbitrary, for individuals show a wide range of differences in biological and psychological growth, and societies differ in the opportunities and responsibilities they provide for young people at various ages. Different countries will find different divisions suit their conditions. For that reason, the present model simply divides the period into two cycles: basic general education and transitional general education. The two phases may be carried out with the same physical facilities, or separate schools may be preferred. This is a matter of choice for each country. The important matter is the different educational emphasis appropriate to the two cycles.

The cycle of basic education

The basic education cycle will normally be five years long. Its essential purpose will be to introduce the child to the universe of space and time in which he and his community are located, to open up to him through his own activities the wide range of interests and potentialities that human beings can develop, and to lay the foundations of those learning skills and interests on which subsequent development will depend.

The main organizational characteristic of the basic school will be its responsibility for the care and education of children for a large part of the day while they are too young to take full advantage of the other educational facilities in the community. The school should be in effect a miniature community, providing in a selective, simplified, and idealized form the initial experiences that will later be provided by the wider resources of the community. For example, the schools will have libraries, art galleries, museums, gardens, laboratories, workshops, theatres, studios, music rooms, sports grounds, radios, television, as well as teaching and learning devices of many kinds. Its activities will stimulate in many ways the activities of the world outside the school.

Bringing the community into the school

Although the school should be an idealized epitome of the wider community, it should not be isolated. Opportunities should be made to bring parents and other members of the community into the school where they can share relevant experience, demonstrate skills, help care for the children and teach things they are specially fitted to teach. Not only would this bring the school into closer contact with its community, but in developing countries, it could also assist the professional teaching staff and help reduce the effects of the shortage of teachers.

The cycle of transitional education

The transitional cycle will normally occupy four years. While continuing the general education of the basic cycle, the distinctive aim of the transitional cycle is to initiate the process of educational and vocational choice that will lead to the selection

of a provisional field of employment at the end of the cycle. In addition to the general cultural subjects, the school will provide optional studies and activities more closely related to particular fields of interest in the humanities, the sciences, technology, industry, commerce, agriculture, handicrafts and whatever major activities are found in the various circles of community relevant to the lives of the young people.

One of the main functions of the school will be to provide educational and vocational guidance for the students in making their initial choices and in evaluating the results of their experience in the different fields they have chosen during the transitional cycle.

Taking the school into the community

During the transitional cycle of primary education the school will begin to prepare its students to be independent of it, by arranging for them to make systematic use of community facilities for supervised learning and for observing and participating in appropriate community activities.

There are various ways in which such a broadening of experience can be achieved. Supervised study in libraries, museums, art galleries and other agencies whose fundamental purpose is educative can be arranged with the assistance of the staffs of these agencies. Schools can organize visits to observe the operation of community organs of government such as municipal councils and courts of justice, the work of services such as the railways, and the daily work in factories, offices, and other places of work. Participation in community service such as beautifying the environment, helping with the physical care of young or handicapped children and the aged, carrying out seasonal agricultural work, and a wide variety of other useful and educative experiences should be organized by the school in the transitional years. By such practical means, the young people will be helped to bridge the gap between school and community, between their own school lives and their later lives as adult members of their community. They will also have a sounder foundation on which to base their choice of vocation.

Secondary education centres

The period of secondary education, comprising the three years from 15 to 18, corresponds to the final years in the traditional senior secondary schools for those students who are being prepared to enter universities or other post-secondary establishments, and to the period commonly spent in vocational secondary schools by those students who are being prepared for direct entry into skilled trades, technical employment or commerce.

One of the major problems of all school systems is to find the best combination of general education and vocational training at this stage of life. In most countries this period has been marked by a rigid separation between those young people who went directly to work after or even before their general schooling was completed and those who remained in full-time schools. The former often suffered from prematurely terminating their general education while they learned specific vocational skills through on-the-job training. The latter suffered from prolonging a general education and a generalized vocational education that they often saw as remote from life and useless to them.

Many attempts have been made to devise a method that satisfactorily combines general education, vocational education, and specific vocational training during this period, and for some occupations considerable success has been achieved, notably in the USSR and in China. So far, however, no complete system satisfactorily meeting the needs of all young people has been established. The proposed model presents a marked departure from traditional practice in an attempt to solve the problem.

Integration of schooling and vocation

The essential feature of secondary education is that it would comprise part schooling and part working. The schools, while continuing to provide a general education and continuing to use community resources for this purpose, would relate their vocational education directly to those occupational fields in which their students are receiving initial on-the-job training.

The establishments that provide education for this cycle should, in general, be comprehensive schools, offering preparation in many fields of employment, but in certain cases they may be specialized schools, restricted to certain types of vocation.

The students would make a provisional choice of their general vocational field on the basis of their experience in the transitional cycle of general education and would enrol in the relevant course at the beginning of the secondary education cycle. The first year would be devoted to orientation studies and supervised observation related to a student's chosen vocational field. Then each student would choose a specific occupation in which, on a part-time basis and with training provided on the job by the relevant enterprise, he would carry out a graded progression of instructional tasks and productive work appropriate to his capabilities and interests.

The concurrent school courses would be of two kinds: general education, and vocational education relevant to the chosen field of employment. The relationship of the vocational studies to the on-the-job experience will present crucial problems of curriculum design, for these studies need to provide the rationale for the on-the-job tasks and at the same time to develop in the young workers the capacity to progress to more complex tasks and responsibilities.

To illustrate the possibilities and difficulties of this approach to the integration of school and work an example may be given. The field of health services is illuminating because of the variety of services required and because of the way in which, traditionally, there have been sharp divisions between the kinds of training for the various levels of professional competence, from diagnosticians, physicians and surgeons at one level to hospital attendants at the other, with many intermediate workers such as physicians' assistants, nurses, dietitians, laboratory technicians and secretaries.

During the period of initial vocational education, all young people who intended to work in health services, no matter at what level, would begin by working part-time in hospitals and medical clinics, carrying out simple tasks necessary for the effective operation of the enterprise. Their work would be combined with supervised on-the-job training and a progressive series of skills and responsibilities for the care of the sick should be developed throughout the period. At school, as well as continuing their general cultural and civic education, the young people would study the scientific subjects fundamental to health care and medical practice.

Differences in interests and abilities would be evaluated during the course of this cycle, and on the basis of these differences it would become evident which students could continue with higher studies leading to medical and surgical practice and medical research and which would be more suited to intermediate occupations in the health services. Admission to higher specialized education and permanent employment in the intermediate areas would in general be subject to assessments of manpower requirements, while, for the individual, admission would be based upon the level of knowledge and competence demonstrated by a student during the initial vocational cycle, or, in the case of adults, upon equivalent qualifications gained later in life.

Similar examples could readily be outlined in other major vocational fields such as the care and education of children in infant-care centres and the general school system, the practice of commerce in offices and shops, trades and industries in workshop and factory, agricultural and horticultural work in the fields, orchards, experimental stations and laboratories and in the provision and administration of government services, public utilities, and cultural amenities. In all of these activities, young people could be receiving a realistic and personally satisfying introduction to socially useful work on a part-time basis, with proper supervision and on-the-job training, while simultaneously continuing their general education and their study of subjects and skills related to their chosen vocational field.

Co-operation between school and workplace

To achieve the integration of schooling and work envisaged in this model many practical difficulties would have to be surmounted. The proper guidance and selection of the young people for the various vocational fields would require close co-operation between school staff responsible for guidance and placement and the supervisory and training staff of the particular enterprises co-operating with the schools. It would require the school staff to have an understanding of the problems of the supervisors in getting necessary work done properly, and would require the supervisory and instructional staff of the enterprises to realize that they must give adequate training to the young people.

Distribution of time between schooling and work

The amount of time to be allocated to formal schooling and to on-the-job training would vary with the nature of the vocation, the extent of the theoretical background required for different occupations, and the level of work which a particular person is capable of reaching. If the work itself has rich educative components, more time can be given to it than if it consists of narrow skills and does not call for a continued enlargement of theoretical understanding. There is a danger that a narrow training in occupational skills may develop workers who are not well enough educated to be able to adapt themselves to technological change by upgrading their abilities and learning new occupations.

As a somewhat arbitrary general rule, the equivalent of two days per school week could be initially accepted as the maximum for on-the-job work and training. This criterion represents a sharp break with the usual practice by which young workers entering the skilled trades spend the greater part of their time at work with on-the-job training and have only a minimum of continuing general or theoretical education.

School time and work time could be distributed either concurrently or discontinuously. With a concurrent distribution the work time and the school time proceed parallel to each other throughout the cycle. The young person may go to school for three or four days per week and go to work on one or two days; or he may go to school and to work for a portion of each day. With discontinuous distribution, relatively long periods of school and work succeed each other, for example two months of seasonal agricultural work or a one- or two-month period of industrial employment placed at a suitable point in the school year. Which method is most suitable from the point of view of the production needs of the enterprise and the educational needs of the trainees is a question that can only be answered on the basis of an examination of the

conditions of work and the instructional opportunities of each vocational area.

Types of secondary education centres

Most school systems have inherited specialized vocational schools at the secondary level. With the advance of technology, the upward extension of schooling, and more democratic access to education, the trend has been towards deferring the age of specific vocational preparation and extending the length of general education for all children. This in turn has led to the transformation of many types of specialized vocational secondary schools into comprehensive or multicourse schools, at both the junior and the senior levels. The trend will almost certainly continue, for advances in technology will make it less and less possible for even specialized schools to keep up with new inventions and new processes and will require them to concentrate upon the general theoretical and practical aspects of science and technology, leaving specific applications to be taught in the enterprises.

The comprehensive school is able to provide a general education and polytechnical education for all young people, irrespective of their vocational field. It allows greater flexibility of provision for students who find that their initial choice of specialization has been unwise. In the important years immediately preceding the achievement of full adult status, it enables young people who will soon be dispersing throughout a wide range of vocations to develop cultural interests and an understanding of civic issues together. Moreover, it avoids the invidious separation of young people into schools whose prestige may vary according to the kinds of occupations for which they prepare. A major problem currently being faced by comprehensive senior secondary schools in many countries is their apparent irrelevance to the vocational life of many of their students, especially those who are not preparing for white-collar work. This problem would be much less serious with the integration of school and work envisaged in the proposed model.

Centres of tertiary education

On completion of secondary education, the period of initial vocational education, young people would make a definitive choice of their field of vocation. For the majority of occupations this would mean that the young adults will be entering full-time employment, with on-the-job training providing for whatever specialized skills are needed to keep up with new knowledge and procedures applied to their occupations. For some occupations, however, those that require advanced theoretical knowledge and practical skills before they can be practised, sequential schooling needs to be continued at the tertiary level, the level traditionally defined by the universities and the specialized higher schools of technology, medicine, law, commerce, administration, teaching and so on. Such schools of advanced vocational training would generally use selective entrance procedures based upon the satisfactory completion of secondary education, or its adult equivalent, and the ability of the students to learn subjects with a high level of conceptual difficulty.

During the advanced stage of vocational education the young adults should be definitively associated with the occupational field for which they are preparing. They should be working part-time in establishments such as hospitals, laboratories, engineering works, law offices, schools, libraries, museums and so on, thus continuing to learn on-the-job skills at higher and higher levels. At the same time, in part-time attendance at the advanced schools and universities, they should be studying fundamental theoretical subjects and developing more generally applicable skills. The young adults, now bearing adult responsibilities, should be paid adequate salaries or allowances whether they are working in private or in public establishments during this period of combined work and study.

Advanced vocational education at the tertiary stage would comprise two cycles. The first, training for practitionership, may occupy three to six years according to the requirements of different professions. It would usually culminate in the granting of a diploma or licence to practise the profession concerned - law, medicine, teaching, architecture, engineering and so on - or to work as para-professionals or middle-level technicians in the same general fields.

In the perspective of life-long education, the centres of training for practitionership would also be responsible for providing continuing in-service education for members of their respective professions, for the up-grading of qualifications throughout their professional careers, and for the retraining made necessary by the emergence of new fields of specialization.

The second cycle would prepare specialists for research and teaching in the institutions of higher education themselves and in institutions of research and development. This is the cycle in which traditionally it has been most usual to find that productive integration of work and study which is envisaged in the present model for the immediately preceding cycles of education also; for in this cycle the graduate students have traditionally acted as teaching and research assistants to their professors while simultaneously pursuing their own higher studies and undertaking their doctoral researches.

Centres of adult education

Besides sequential vocational education at the tertiary level for those people who have just completed their studies at the primary and secondary levels or have obtained equivalent qualifications later in life, provision is needed for adults to develop a wide range of cultural and vocational

interests. Firstly, provision is needed for the wide range of studies that have no formal entrance requirements and whose fundamental purpose is to enable adults to take up effective and satisfying activities in all the domains of human culture in which they are interested. Secondly, provision is needed for primary and secondary education for those persons who wish to complete them either for direct vocational purposes or so as to continue their education at the tertiary level. The establishing of a regular institutional base for such a wide variety of services for adults is one of the crucial problems in the effective provision of facilities for life-long learning.

For the first kind of studies, the demand for which will steadily increase in the future with the rising level of schooling in childhood and adolescence, a distinctive kind of establishment is needed, centres of adult education or community colleges. These will need to be widely established for adults who want to have opportunities for continued learning not directly related to the acquiring or maintaining of professional qualifications. Such institutions for the continuing general education of adults will need to be available in all communities, whereas the specialized institutions of tertiary education, providing advanced courses for selected students, will necessarily be fewer in number. In many countries university extension departments have tried to meet the general needs of adults, but their essential responsibility is towards advanced studies for persons entering the tertiary period of education at a later age than usual. They are unlikely to be able to cope with the popularization of life-long education and provide adequately for the varied needs of the whole adult population without having their specific responsibility for advanced education deleteriously affected.

Providing for the second kind of need, basic and secondary education for adults who were unable to complete these at the normal time, presents some special difficulties. It is desirable, in general, that adults be educated in establishments specifically intended for adults, and by teachers trained to work with adults. The centres of adult education should, therefore, have departments that specialize in this field.

In developing countries, however, functional literacy and basic education programmes cannot await the establishment of the institutions most appropriate within the framework of an ideal system. As a transitional measure, the facilities of primary and secondary schools and other agencies should be used for evening classes conducted by primary and secondary school teachers, and other suitable people, including young people training to become teachers.

At the adult level, all the cultural facilities of the community should be made use of for educational purposes. The centres of adult education will need classrooms, workshops, studios and other resources for providing education; but they will also function as organizational centres, stimulating, supporting and co-ordinating the educational activities of museums, libraries, theatres, art galleries and many other community agencies. The media of mass communication have a very important place, also, for many educative activities can be more satisfactorily undertaken in the home than in public facilities. One of the major organizational tasks of the adult education centres will be to determine which facilities can most effectively provide for the various needs of adults and to encourage their development and co-ordination.

For physically handicapped persons and people living in isolated parts of the country, systematic study should be aided by correspondence courses, radio, television, mobile classrooms, libraries and laboratories and any available means.

3. AN ADMINISTRATIVE MODEL

The essential administrative principles arising out of the assumptions discussed previously may be summarized as follows: central policy-making of a general nature, central financing, and central evaluation and supervision of local facilities to ensure an equitable allocation of educational resources throughout the nation; local policy-making of a detailed nature, local provision and operation of educational services in order to make best use of local knowledge of resources and needs; vertical and horizontal co-ordination of educational services to ensure the efficient use of resources for life-long education; community participation in policy-making and control at each level of educational provision and administration, in order to actualize the ideal of an educative society responsible for shaping its own way of life. The proposed model is based on these principles.

The central government should delegate to a national board of education the responsibility for drawing up the general lines of national educational policy on the provision of education at all levels and of all types; for drawing up budgetary recommendations concerning the apportionment of public funds for educational purposes; for the establishing of national standards of educational qualifications; and for the general supervision and evaluation of the provision and operation of educational services by the local educational authorities.

The national board of education should be comprehensive, representing at the national level all the major educational sectors of the community. It should include representatives of the main departments of government that provide educational services, for example, the departments of health, communications, and the armed services. It should include representatives of the public and private formal educational services at all levels from infant care to adult education. It should include representatives of industry, commerce and the trades unions, and the major cultural associations of the community. It should also represent parents, teachers and students.

A representative national body of this kind will be able to develop a comprehensive educational policy and budget for submission to the central government, and will to some extent safeguard both the government and the community from the pressures of special interests in determining policy.

The national board of education should have a permanent secretariat responsible for carrying out the supervisory, evaluative and advisory functions necessary for its own policy-making deliberations and ensuring that the local authorities are adequately providing educational services in conformity with national policy. The secretariat will need to have divisions corresponding to the different levels and kinds of education (infant, primary, secondary, tertiary, general adult education, vocational training and so on) and responsible for the general supervision of educational provision in their respective fields. It will also need to have statistical, financial, planning and research divisions. The national secretariat should not exercise any decision-making power at the local operational level.

In countries that occupy a large geographical territory or that are divided into distinctive ethnic regions, it may be necessary to have regional divisions of the central secretariat.

National advisory committees should be established in various fields (such as university education and vocational training) and for various purposes (such as the certification of vocational qualifications) in order to submit detailed policy recommendations to the national board. They should work closely with the corresponding divisions of the secretariat of the national board.

Local boards of education should be responsible for the provision, maintenance, and operation of all agencies of the formal education system at all levels and for the co-ordination of the activities of the formal and non-formal agencies. In order to carry out such comprehensive functions, the local boards should be representative of the major community interests and the major agencies providing educational services in the local area. The local boards should have the responsibility of developing specific local educational policies in conformity with general national policy. Their duties would include the following: making recommendations to the national board on the educational facilities needed in their area, arranging for the construction of educational facilities, determining the specific educational needs of their area, participating with the governing bodies of the educational centres in the appointment of their teachers in ways appropriate to the different levels of education and in accordance with national standards of certification, supervising the operation of the educational centres, and providing advisory services to help the staffs of the centres in their work.

The local boards of education should not themselves be elected bodies, but should be appointed by the elected general organ of local government of the area (the city or county councils, for example) to which they would be directly responsible for the provision of adequate specific educational services in accordance with general national policy. The policy formulation of the local boards would have to be endorsed by their local governments in the same way that the policy formulations of the national board of education would have to be endorsed by the national government. In countries where there are no elected general organs of local government for areas of population suitable in size for constituting effective educational districts, a

different method of establishing the local boards of education will be necessary. It is suggested that local education districts be demarcated, and that within these districts members of the major community interests and educational agencies nominate their own representatives.

Each educational centre should have its own governing board, representing members of the community, the teaching staff and the students. The governing board should be responsible for the day-to-day operation of the educational centre within the framework of policy established by the local board of education for the various levels of education provided in its district. Within this framework of policy, each centre should have a great deal of autonomy in determining its curriculum and teaching methods and in deciding what educational services it can most usefully provide for its community. It should be the aim of the local education boards to allow the educational centres at the different levels the maximum of autonomy compatible with the need to provide a comprehensive and well co-ordinated educational service to the community.

4. AN APPLICATION OF THE MODEL

When any concrete education system is compared with an abstract model, similarities and differences will be seen. These will vary from country to country and in consequence no such comparison can itself be typical. The purpose, therefore, of the following application of the model to one particular country is not to argue that there are general similarities and differences that can guide us, but simply to show the practicality of such an application, its advantages, and the difficulties that will have to be faced. Nor is it the purpose of this example to recommend that the country chosen for the sake of illustration ought to adopt the model outlined here, or ought to adopt the specific changes suggested as ways of conforming to the generalized model, for there could be various ways to reach the same end. Decisions on such far-reaching changes could only be taken by a particular country after a meticulous elaboration of the specifications appropriate to its particular circumstances.

The country taken for illustration is Peru. This does not imply that Peru is in some sense typical. It is true that Peru occupies a position between the most developed and the least developed of the Latin American nations, and many of the problems of reconstructing its system in accordance with any general model will probably be found in other Latin American States. In spite of the recent great expansion of education, the absolute number of illiterate persons in Peru, now approximately four millions, is increasing. Most citizens have had fewer than three years of schooling. (1) Between 1958 and 1968, enrolment in the primary schools increased by 78 per cent, in the secondary schools by 166 per cent and in the universities by 281 per cent; and the index of retention doubled during the same decade. Nevertheless fewer than 10 per cent of the students who commenced their primary education at the beginning of the period completed secondary school studies. It is not likely that the school system in fact could cope with a massive increase in the retention rate, and in such a situation a new approach to the difficulties of educating the nation is needed. A model of life-long education can be of some help in this respect, for it enables the policy-maker to attack the problems simultaneously at all levels instead of emphasizing the infrastructure.

The reform of education in Peru

It has been pointed out that one of the main advantages, for developing countries, of constructing a model of life-long education is that it shows the way to break through the impasse into which the linear expansion model has led them. In the case of Peru, this impasse has been clearly recognized. The government is at present engaged in a fundamental reform of its education system, the general purpose of which is to make education available to every person, rather than to a favoured minority, and to relate education more realistically to the needs of this developing nation in a technological era. The reform sees education as broader than schooling, involving many other agencies of the community. It sees the need to co-ordinate the regular school system with these other resources, to provide for children and adults continuing opportunities for personal development throughout their lives. It aims at transcending the previous rigidity and isolation of the bureaucracy by broadening the basis of control to permit of participation of the community in the policy-making and administration of education. To make this possible, it envisages considerable decentralization of control and a great deal of operational autonomy for the various educational agencies. At the same time it sees the need for co-ordinated policy-making at the highest level among all the government ministries and national bodies concerned with education.

The organizational structure

While recognizing that education is broader than schooling, the Peruvian reform sees the school system as providing the institutional base that can most readily co-ordinate the non-formal educational activities and initiate new activities. It therefore envisages the continuation of the regular school system to provide sequential education for young people from the earliest years to the highest stages of graduate study and research. It envisages a parallel system, using the facilities of the regular school system as well as special facilities, by which people who have dropped out of the regular system without completing their primary and secondary education may take up part-time studies at the appropriate point, and prepare themselves for special vocational qualifications or for higher education. It also envisages special means by which workers can improve their vocational qualifications, and it envisages a wide use of the media of mass communication for general cultural development.

In outline, the school system is as follows. There are three levels of education. The first is the Initial level, which provides for children from birth till six years of age, in nurseries (0-2 years), nursery schools (3-4), and kindergartens (5-6). In the earlier years, care is provided for the children of working mothers and programmes of family education are available for parents. In the later years the intellectual and emotional development of the children aims at preparing them for regular schooling.

(1) Peru, Ministry of Education, Reforma de la Educación Peruana: Informe General, p. 10. Lima, 1970.

Secondly there is the Basic level, which provides nine years of general education, from 6 to 15. It is divided into three cycles, of four, two and three grades respectively. These cycles are intended to be complete in themselves. The first cycle aims at developing the fundamental skills of learning and the social attitudes on which human society depends. The second cycle enlarges knowledge and skill sufficiently to provide the basis for carrying out semi-skilled labour for those who leave the school system at this point. The third cycle gives the general education needed for learning skilled occupations. Fundamental to the whole level of basic education is its comprehensive nature. It no longer separates children at an early age into those who will continue their general education and those who will undertake trade training. Basic education is provided in Centros Educativos Comunales (CEC).

Thirdly, there is the Superior level, which includes senior secondary education and university education. Its purpose is to continue general education but at the same time to prepare people for vocations requiring high levels of special knowledge and skill. It is divided into three cycles. The first cycle, of three or four years, prepares people for occupations that require the certificate of a completed secondary education, the Bachillerato Profesional. Education in this cycle is polytechnical, preparing graduates for specialized careers in such fields as administration, agriculture, commerce, construction, education, industry and health, transport; and it is polyvalent, providing education that is comprehensive enough to admit graduates to any field in the second cycle. This first cycle is provided in Escuelas Superiores de Educación Profesional (ESEP). The second cycle corresponds to the university and prepares people for the learned professions that require the Licenciatura. The third cycle corresponds to the graduate schools of universities and leads to the Maestría and Doctorado, preparing people for high-level specialization, teaching and research in the humanities, the physical and social sciences, and the technologies.

Parallel to the regular school system at the Basic level is provision for adults to complete their basic education by attending evening classes. The courses of basic adult education are also divided into three cycles, but the time units differ from those of the regular school system. The cycles are of two, three and four grades respectively, reflecting the fact that the adult learner will pass more quickly through the fundamental literacy stage than will the young child, but that he will take longer, studying part-time, to cope with the enriched studies of the later cycles that will prepare him for specialized vocational training or for the first cycle of the Superior level. To improve the vocational qualifications of workers, a wide range of training programmes is to be provided by the enterprises themselves, by trades unions and co-operatives, and through a variety of governmental and private services.

The administrative structure

The university has a large measure of autonomy, the senior secondary schools (ESEP) come under the regional administration of the Ministry of Education, and the basic schools are to be locally controlled.

The main organs of administration of the universities are the Asemblea Universitaria Nacional, a policy-making body, and the Consejo Nacional de la Universidad Peruana (CONUP) which has executive and technical functions. The graduate divisions of the universities are under the general control of the Instituto Nacional de Altos Estudios (INAE). Co-ordination of the activities of the university with those of ESEP is the function of the Consejo de Coordinación de la Educación Superior. The ESEP are under the direct control of the Ministry of Education, but in order to enable them to relate their activities to the specific needs of different parts of the country they are administered by regional directorates assisted by regional councils.

The most far-reaching attempt at developing local responsibility occurs at the levels of initial and basic education. The unit of administration is the Núcleo Educativo Comunal (NEC), comprising a central unit (Centro Director) and 5 to 15 Centros Educativos Comunales (CEC). Each NEC provides for communities of from 2,000 to 4,000 inhabitants, or for a smaller number in sparsely populated areas. Each Nucleus is to provide for comprehensive care and education of all members of the community, adults and children alike. In general the central unit will provide all nine grades of basic education, while the communal centres will provide the first six grades. A communal council supports the director of each NEC. Zonal and regional directorates of the Ministry with their advisory councils co-ordinate the work of the NEC.

In the perspective of life-long education the importance of the concept of the Núcleo Educativo Comunal is clear. It will be the means whereby all the educative resources of a locality are co-ordinated and used in the manner most suited to its needs. The NEC is to provide for adults and children alike. It is to integrate formal schooling and out-of-school activities into a comprehensive educational process, using both the regular school facilities and teaching personnel and the out-of-school community facilities and people with knowledge and skill that they can place at the service of their follows. The traditional school will play a key rôle in the activities of the NEC, but it will no longer retain its former isolation from the community. Its teachers will no longer teach only the children but also the adults; and on the other hand, children will not only be taught by professionally trained teachers but also by other members of the community. Just as the school facilities will be available to adults as well as to children, so too the other facilities of the community will be used by the children. The NEC

has indeed the potentiality of becoming the kind of basic centre of education outlined in the present model.

To achieve this goal, each centre will need to have considerable autonomy in deciding what are the most important educational provisions required in its area, and in arranging for their establishment and maintenance. An advisory council, the Consejo Educativo Comunal, representing the families of the area, the local authorities, the trades unions, employers' organizations, government services, the teachers, cultural organizations and so on, is intended to have considerable responsibility for the day-to-day operation of the educational activities of the NEC and considerable power to adapt educational provision to the needs of the area, within the broad framework of policy adopted at the national levels concerning such matters as educational objectives and standards, the quality of facilities and equipment, the conditions of employment of teachers, and so on.

Differences between the Peruvian system and the proposed model

In many ways the reformed education system of Peru presents similarities to the conceptual model outlined here. There are, however, some crucial differences which require consideration. Especially important are the following: (1) the relatively independent administration of the major levels of education; (2) insufficient powers of policy-making in the councils representing community interests; (3) the relative lack of horizontal co-ordination of the agencies of senior secondary and university education with the other agencies of the community, especially those of the world of work; (4) a relative lack of provision for general adult education unrelated to the attainment of specific educational and occupational qualifications.

The relative independence of the administration of the different levels of education manifests itself in the following ways. The universities, the secondary vocational schools (ESEP) and the communal education nuclei (NEC) have their own vertical lines of communication with their highest organs of policy-making and administration and with their own consultative councils at various levels, zonal, regional or national; but there seems to be insufficient organizational or administrative linkage between their respective administrative staffs and their councils within any given locality. At the national level, the Ministry of Education can co-ordinate the general policy of the ESEP and the CEC; but unless there are means whereby the local or zonal directorates and councils can co-ordinate their own activities, it will be difficult for them to make a full yet economical use of the resources of their communities or to achieve a close vertical articulation throughout the entire length of schooling. Such co-ordination can be aided by co-operation between the local and zonal officers of the Ministry, but the effective participation of the community in educational activities, which the Peruvian reform aspires to, requires a closer integration of the community councils.

Secondly, though it is one of the intentions of the reform to decentralize the administration of the system and to encourage community participation in the task of adapting educational provision to the needs of different regions and localities, the decentralized powers seem to be rather executive than policy-making. Moreover, these decentralized powers seem to remain largely in the hands of the bureaucracy. Councils have been established at every level, national, regional, zonal and communal, for the purpose of advising the officers of the Ministry. The councils seem to have mainly advisory functions rather than a decision-making and operational rôle. In this they differ from the model proposed here.

The third major difference is that there remains a divorce between schooling and work for full-time students following the regular courses at the senior secondary and university levels. There is no provision for regular students to spend part of their time in employment closely related to their studies. Adult workers can attend evening courses provided by the ESEP, but this does not mean that there is any real pedagogical co-ordination between their schooling and their work.

The fourth major difference is the lack of adequate institutional provision for the general social and cultural education of adults beyond the basic level and the senior secondary level. This means that the non-vocational needs of adults throughout the greater part of their lives are relatively neglected. Through the Instituto Nacional de Extensión Educativa y Cultura (INEEC) it is intended to make use of all the means of mass communication, especially radio and television, to promote self-education throughout the population. The mass media, however, are not a satisfactory substitute for the direct interaction of teachers and students in educational groups, and for this purpose centres of adult education are needed that can provide for the wide variety of subjects that adults wish to pursue.

The model applied to Peru

There is more than one way in which it would be possible to change the Peruvian system to conform to the present model, since any abstract conception can be realized in many differing concrete forms, and it should be emphasized that there is no intention of recommending that the particular changes suggested here should be adopted. Their purpose is simply to illustrate a possible conversion model.

The responsibility for general policy-making and administration would be placed in the hands of a National Council of Education, appointed by the government, representative of all the major

interests in education, and headed by the Minister of Education. The Council would operate under the general policy direction of the central government, which should provide the major part of the educational budget for the entire nation. Within the broad lines of government policy and with the budget provided, the National Council of Education would be the authority responsible for developing the system of life-long education for the nation. The several existing specialized councils would continue to function. They would make their recommendations to the National Council of Education, which would be responsible for formulating an integrated policy and they would carry out their executive functions in conformity with the integrated national policy. Such special councils are the Asemblea Universitaria Nacional, the Instituto Nacional de Extensión Educativa y Cultura, the Consejo Nacional de Educación Laboral, and the Consejo Nacional de Reforma y Paneamiento Educativo. In addition to these, further advisory councils would be formed to elaborate policy for initial education, basic education, secondary vocational education, teacher training and adult general education. All of these councils would represent both government and private educational organizations, so that a rational co-ordination of public and private resources could be effected.

One of the major innovative tasks of these special advisory councils would be to elaborate policies and plans for the integration of schooling and out-of-school education and training at each of the three levels of education in accordance with the specifications of the general model. At the senior secondary and university levels, this would require far-reaching changes in the organization of school programmes and in the financing of vocational training in the private sector of the economy. If it were decided that the industries and enterprises themselves should finance the vocational training part of education, a method similar to that of the United Kingdom might be appropriate, in which all enterprises make financial contributions to a common fund from which are paid the costs incurred by those particular enterprises that provide proper vocational training.(1) A second major innovative task would be the planning of new institutions for the general education of adults, to meet their lifetime non-vocational needs. In the future, it is probable that each area populous enough to have a senior secondary school would need an adult education centre or community college for adults. An adult education centre does not necessarily require extensive special buildings, for many facilities in the community can provide the appropriate setting for programmes of adult education, for example, secondary schools, libraries, museums, theatres, public meeting halls, club rooms, church facilities and medical clinics. Special facilities would be required, however, for administration, information and guidance, community meetings and some formal classes.

The chief executive officer of the National Council of Education would be the Director-General of Education, in charge of directorates of finance, planning, initial education, basic education, secondary vocational education, university education, general adult education, teacher training, workers' vocational education and so on. The functions of these directorates would be mainly research and evaluation, to enable the various national advisory councils and the National Council of Education to elaborate national policy and to maintain a general supervision over the adequacy of the educational provision made by the decentralized operational bodies. It would not be the function of the central directorates to make operational decisions at the local, zonal, or regional levels.

The actual administration of the education system would be the responsibility of comprehensive zonal councils of education, and the councils of the individual universities, schools, educational nuclei, and other operational units. The zonal councils would be responsible for all levels of education provided within their territorial limits and would represent all the educational levels and all major community interests involved in the process of life-long education. They would thus be able to facilitate the co-ordination of all levels of education within their areas, and they would be able to integrate the activities of the educational centres with the work of other agencies of the community. They would have the responsibility for establishing, maintaining and operating public agencies of education at all levels, in accordance with the general policies of the National Board of Education and with the finances made available to them by the central government on the basis of the budgetary recommendations of the National Board. Another of their tasks would be to assess the educational needs of their respective zones and make appropriate budgetary recommendations to the National Board. In principle, to conform to the model, members of the zonal councils should be appointed by the elected local governments of their areas in such a way that they represent all the major educational, cultural and economic interests in their respective zones. When such elected local governments do not exist, each of the various interests in a zone would elect its own member to the council.

The zonal councils would have administrative directorates responsible for finance and planning, for building, equipping and maintaining schools, for supervising the activities of the schools and of the out-of-school programmes at the various levels, for maintaining a register of the qualifications and

(1) See Gertrude Williams, "Industrial training in the United Kingdom," Ch. 10 of the World Year Book of Education 1968, Education Within Industry, Edited by Joseph A. Lauwerys and David G. Scanlon. London, Evans Brothers, 1968.

experience of teachers working in the schools, and for ensuring that the schools are adequately staffed and are satisfactorily operating.

Each educational establishment would have its own council to help its director and staff in day-to-day operations. The membership and the responsibilities of these councils will differ somewhat from level to level. Councils of the universities, the ESEP, and the NEC, for example, should represent a wide range of community interests, while the councils of the communal centres would be more closely related to a smaller circle of community and would be largely composed of parents of children attending the schools and adults following basic education programmes.

The directors and councils of the individual establishments should be given much autonomy in their educational work. The degree of this autonomy would vary with the size of the establishment and the qualifications of its faculty. For example, the universities would have almost complete autonomy in their provision of programmes and their awarding of diplomas to their graduates. The adult education centres similarly should be largely autonomous. The ESEP would have somewhat less autonomy in these matters, since their graduates would be required to meet certain common standards of performance in academic attainment and vocational skills, though their curricula may vary somewhat from region to region. The communal centres, with teaching staffs on the whole less well qualified than those of the ESEP, would require more assistance and supervision by the zonal directorates. Similar differences in the degree of autonomy and responsibility would apply in the important arrangements each establishment must make with other agencies of the community with which it co-operates in the provision of education.

It would be one of the major responsibilities of the zonal councils to ensure that all the educational establishments are adequately staffed, but in the selection of teachers, the councils of the establishments themselves should play an important part. The degree to which they participate in the process of selection and appointment would vary with the type of school. The universities and adult education centres should have complete autonomy in selecting, appointing and promoting members of their faculties within the budget allotted to them. The councils of the ESEP should have the power to select and appoint properly qualified teachers, subject to ratification by the zonal councils. Directors and teachers for the infant care centres and the NEC should be selected by an appointments board established by the zonal council and comprising members representing the council and the teachers and councils of the schools of the zone.

In the reorganization proposed for Peru, regional councils would not be required, because the operation of the system would be effectively decentralized at the zonal and local levels. Complete regional directorates would also be unnecessary. However, regional offices of some of the directorates of the National Council of Education, especially those concerned with planning and finance would provide a means for collating assessments of the educational condition and the financial needs of the various zones within each region. In this way regional offices would be of great assistance to the directorate of the National Council in preparing estimates of national needs.

Conversion to the proposed model

The first step in the conversion of the present system to the proposed model would be to set up a national consultative commission to work out in detail the changes needed to continue the present reforms through to the stage where life-long education is a reality. A step-by-step plan of priorities would be needed for attacking illiteracy, for providing the skilled manpower required by the developing economy, for improving the quality of the services provided by all departments of government, for increasing the participation of the citizens in the processes of democratic social change, and for enriching the cultural life of the people. Structural changes as profound as those suggested in the present model would require close study in the context of a concrete national system before practicable plans could be elaborated. In the process of carrying out such a study, the commission would need to take evidence from many sections of the community. Such a process would stimulate a nation-wide dialogue on the possibilities for further reform and create an atmosphere favourable to life-long learning.

Interim changes

Structural reforms take much time to plan and introduce, but at a very early stage it would be possible to initiate many practical improvements within the present system. This could be done by making fuller use of all the existing formal agencies of education and especially by seeking ways of using the rich resources of the non-formal agencies. The formal educational establishments at every level could be encouraged to find ways in which their teaching staffs might provide extension services to members of the community not able to benefit from its normal courses. Non-formal cultural agencies, such as libraries and museums, could initiate educational programmes. Trades unions, co-operatives and enterprises could work together to provide new educational opportunities for workers. As an interim measure in a national emergency, it could be expected that much of this extension work could be done on a voluntary basis.

One of the immediate priorities would be an increased attention to adult education. This should not entail any reduction of the present efforts to expand educational opportunities for children, but it should be brought about by extending the use of

all possible resources to make new provision for adults. This is necessary for two reasons: first, because it is the adults who are most directly called upon to face the great social changes of the present era; and, second, because the participation of adults in the processes of education would itself provide a strong motivation for young people to take advantage of the educational opportunities being made available to them. Extended provision for adults should begin in a modest way by using existing facilities and resources. Educational establishments already under construction can be improved by such means as adding adult meeting rooms to primary school buildings or including discussion rooms in community libraries or hospital buildings. New school buildings can be planned as community education centres for adults as well as for children.

In this period of initial expansion of opportunities for adults, the particular agencies and establishments concerned should endeavour to find out what educational services people really want. The most effective use of scarce resources would come from helping people who have the motivation to advance their educational attainments further. Adults who have already had some education would probably be the first to take advantage of the new opportunities, but their participation would help to stimulate an atmosphere of learning that would encourage adults who have had no formal schooling at all and who are often resistant to educational programmes.

Preparing for the major change in administration

In this initial period, before the adoption of far-reaching structural changes in the system, the various advisory councils envisaged in the current Peruvian reform would have very important functions to perform. At the zonal level, these councils should assess the needs and the resources of their areas. They should explore the practical implications of closer co-operation between educational establishments at different levels and between formal and non-formal agencies of education in their areas. They could also encourage educational and cultural agencies in their areas to initiate voluntary measures for the co-ordination and expansion of their educational services. This would provide a basis of practical experience with the problems of policy-making and administration at the local level which would be of great value when the time came for zonal councils of the comprehensive nature suggested in this model to be established and to be given the major responsibility for education in their areas.

In the same way, councils of the individual establishments, from the communal educational nuclei (NEC) to the senior secondary schools (ESEP) and the establishments at the tertiary level, should be involved in the process of assessing their own resources and the needs of their communities. With the assistance of the zonal councils, they should be encouraged to take on immediate responsibilities for extending their services and co-ordinating their activities. The ultimate success of a system of co-ordinated formal and non-formal educative services such as that envisaged in this model would depend largely upon the co-operation of the local communities. Giving the local communities the responsibility for formulating new policies and for carrying them out is one of the most effective ways of overcoming the inertia of people who have been governed too bureaucratically in the past.

When the ground has been well prepared by local experimentation and a comprehensive general policy has been formulated by the national consultative commission, the government could launch the far-reaching structural changes that would place the control of education in the hands of a comprehensive national council of education and comprehensive zonal councils. The zonal councils should then give priority to the following aspects of the reform: the training of teachers, the provision of a second chance for young people who have left school prematurely, and functional literacy and development programmes for adults.

Basic priorities in the provision of education

The training of teachers is the crucial factor in the success of all major aspects of the reform, for the responsibilities of the teachers are much wider when education is based on co-operation between formal and non-formal agencies, in particular by a close association between school and work. It is appropriate that the union of schooling and work be carried out first in the training of teachers, so that they would be able to play their part with understanding when education and training for other vocations are being similarly reformed. Priority, then, should be given to the integration of work and study in the training of teachers. Senior students in the ESEP and the Escuelas Normales who are preparing for the diploma of Bachiller Profesional en Educación could be given teaching responsibilities in the NEC, and students in the universities preparing for the Licenciatura de Educación could work concurrently in the ESEP. The purpose of this integration would be twofold. It would improve the education of the students and reduce the number of teaching hours of the regular faculty, thus freeing them to expand the educational services of their establishments. At the same time, special refresher courses would need to be instituted for teachers already working in the NEC and the ESEP, to enable them to provide suitable functional literacy courses for adults in their communities and extension courses for young people who have dropped out of school, and also to prepare them for working closely with the non-formal agencies.

Next, efforts should be made to attract to the

NEC young people between the ages of 12 and 15 who have left school prematurely or who have not attended school at all. Classes for these young people could be held in the daytime and in the evenings, conducted by the teachers whose regular teaching hours have been reduced by the help of student-teachers. The aim should be to achieve literacy for all young people in the 12 to 15 age group, and to prepare the most able ones to enter the ESEP. The time spent in rehabilitating these students would be more effective than an equal amount spent on younger children who leave school before completing the initial cycle. In the same way, the ESEP should extend their evening courses for young people who have left school after completing their basic education, and the universities and other tertiary institutions should open up opportunities for adults who have qualified themselves for entry. Thirdly, functional literacy programmes for adults should be extended in the NEC. In areas where there are no NEC, these should be established, concentrating initially on adolescents and adults rather than on the younger children.

The final phase

The next major task of the reform should be to extend the process of integrating schooling and work to other areas of the economy for the regular students in the senior secondary schools (ESEP). This process would require detailed planning by the zonal councils and much co-operative preparation by the schools and by the enterprises, hospitals, and other social and cultural services that would work with the schools. It would require close co-operation between the zonal and community authorities and the National Council of Education on such matters as ensuring the equivalence of professional qualifications and requirements for certification in many fields of skilled work. It would require co-operative study of the best ways in which vocational training can be provided in each kind of enterprise, because the conditions of work differ widely on farms, in factories, offices, hospitals and all the variety of occupations for which young people would be preparing themselves. It is likely that this phase would take several years to accomplish, starting first with enterprises where study and training can most easily be co-ordinated, such as hospitals, clinics, government offices and well organized industrial and commercial establishments.

The final task, in terms of priorities but not in terms of ultimate value, would be to establish throughout the country, centres for the general education of adults, that would enable them to continue the development of non-vocational interests throughout their lives. The resources of the non-formal cultural agencies and the media of mass communication should contribute to the cultural development of the community, and much of the work of the adult education centres would consist of providing information and guidance to help adults make good use of the non-formal agencies.

The vast scope of the practical arrangements that would have to be worked out in the implementation of the model, need not be emphasized here. They apply to any reform. The important element that needs emphasis is this. The proposed model, with its aim of transforming the education system so that the resources of formal and non-formal agencies are fully available to people throughout their lives, requires close involvement of the local community. This, in turn, is most likely to be guaranteed when much responsibility and wide powers of decision-making are given to people in the local communities, rather than to administrators of the central bureaucracy. National policy-making in terms of broad principles, with local control of the detailed provision of education, is the model most likely to be successful in the long process of achieving the goals of life-long education.

The changes needed to institutionalize the model of life-long education presented here cannot be brought about independently of other far-reaching social changes. Systems of education are integral parts of the structure of their societies, no part of which can be altered fundamentally without affecting others. (1) Nor can major alterations in the structure of education occur until people are ready to make radical changes in the entire social structure. Hence, profound as are the changes that will be brought about by the provision of life-long education, they themselves will depend upon even more profound transformation of the conditions of life in the present era.

Some countries have already begun to make significant changes in the direction indicated in the present model. In the very process of drawing up detailed plans appropriate to their own unique conditions and of initiating some practicable steps towards their goal, they are in fact helping to bring about the wider social changes that they know are necessary to improve the quality of life. In many countries, however, it is doubtful whether any but the most far-sighted see the importance of life-long education for their future or realize the radical nature of the transformation of their present education systems that will be required. For this reason it is inevitable that resistance will be offered to the educational and social changes implied in building the kind of system of life-long education outlined here.

Such resistance will understandably occur in the economic and political fields, where the proposed model obviously has considerable implications. It can also be expected in other fields where the vested interests of specific social groups will be affected. In the economic system, the proposed integration of education and work will require changes in the criteria of efficiency appropriate for the productive enterprises themselves. These criteria will have to recognize not only the production of goods and services but also the provision of educative experience that will enhance the quality of life of their workers. This latter function is common in the economic arrangements of pre-industrial societies but has been lost in many of the large-scale enterprises of industrial capitalism. There may be obstinate resistance to overcome in reviving a wider view of the purpose of the economy wherever the motive of profit is still dominant in the organization of work.

In the political sphere, the idea of democratic community participation in the control of education implicit in the present model is also likely to meet with resistance. In some quarters it will almost certainly run counter to authoritarian forms of government and the control of political life by self-renewing élites. Participation in educational policy-making and administration at the local level gives people practice in political activity and can lead to more effective general local government where the machinery of local government exists. It can also create the expectation of effective participation in local government where there is no suitable machinery as yet and can thus lead to demands which constitute a threat to undemocratic systems. Such expectations, moreover, are likely to spread to the wider field of national politics.

Within an education system itself there may be many areas of resistance. The very concept of professionalism, which teachers have struggled to realize during the past hundred years in their attempts to improve their qualifications and their status, can be a barrier to co-operation between the organized education system and other agencies of the community, for teachers may not willingly recognize the educative rôles of people whom they do not regard as professionally competent. Furthermore, within a strongly hierarchical bureaucracy, administrators may be reluctant to allow the individual educational establishments enough freedom to adapt their programmes to the needs of their communities, and may not welcome the participation of the community in the control of education.

Other sectors of society, too, have their special interests which may appear to be threatened by the proposed changes. Trades unions, for example, whose support is essential to the success of the proposed reorganization of vocational training, may have misgivings about the effect on wages and working conditions of an expansion of the labour force by student-workers entering the enterprises on a part-time basis. Privately supported organizations of an educational and cultural nature may fear a lessening of their independence if they are encouraged to co-operate closely with public institutions. It is important that potentially beneficial innovations be introduced in such a way that they do not do more harm than good to the community as a whole.

For many reasons, then, it is inevitable that there will be some forces opposing the educational reforms that are called for by the social changes of the present era. Those leaders who see the need for innovation will have to consider carefully strategies of change that are appropriate to the particular circumstances of their own countries at their present stage of development. Such strategies will need to vary from community to community, and in each case the complex factors involved will confront the leadership with serious problems. This brief document is not the place to discuss strategies, but it is appropriate to point out that several different models of strategy

(1) Marion J. Levy, Jr., Modernization and the structure of societies, Princeton, N. J., Princeton University Press, 1966.

for change have been identified, and these can be studied with profit by educational planners. (1)

A useful analysis of such models classifies them according to three different ways of gaining acceptance for innovative ideas and practices. (2) First, there is the rational-empirical approach which, by a process of rational analysis of the facts of a situation, attempts to convince people intellectually of the validity of a proposed solution. Secondly, there is the normative approach, which attempts to change people's attitudes by persuasion, emphasizing emotions and sentiments, because it is recognized that much resistance to change may have little rational basis but may arise from unconscious sources of motivation. Thirdly, there is the coercive approach, which uses the allocation of authority, power and financial resources to convince people that they have more to gain by supporting reforms than by opposing them. In practice all three approaches will usually be employed to some degree. Where the emphasis is placed will depend very much upon the kind of resistance that is encountered and the motivation of the people most resistant to change. Whatever the situation, however, normative methods of re-education of large sections of the adult population are likely to be required(3) and it will be necessary to show people that tangible advantages can be expected from the reform.

Of all three approaches, the rational-empirical approach is the one that is least likely of itself to be effective when innovations are to be made widely acceptable throughout a community; yet it is of fundamental importance when any major change is being planned. The rational-empirical approach provides for that dispassionate analysis of the relationship between the ends and the means and between the whole and the parts that makes possible a well-integrated plan; and without such a plan it is unlikely that the innovations will have the desired results.

An important part of the rational empirical approach is the making of conceptual models. It has been the purpose of the present study to construct a conceptual model of life-long education with as much intellectual clarity as possible, in order to help people see the problem as a comprehensive whole without getting lost in the maze of detail found in a real system. It should be emphasized again that there are many ways in which a conceptual model of life-long education can be constructed, and this is only one of them. There are also many ways in which, for the sake of illustration, a given model can be applied to the concrete realities of a particular country and again the application suggested here is only one of them. The present model will be justified if, by outlining in a brief compass the essential structure of a comprehensive system of life-long educational provision, it helps the makers of educational and social policy in diverse countries to conceive of imaginative reconstructions of their own systems that will serve as guides to the detailed planning needed as the basis for effective practical action.

(1) Charles J. Erasmus, Man takes Control, Indianapolis: Bobbs-Merrill Co., 1961. Ward Hunt Goodenough, Cooperation in Change, New York, Russell Sage Foundation, 1963.

(2) Edgar L. Morphet and David L. Jesser, (eds.) Designing Education for the Future: an Eight-State Project, 7 vols. New York, Citation Press, 1967-1969. Vol. 4. Cooperative Planning for Education in 1980. pp. 87-90.

(3) Goodwin Watson, (ed.), Concepts for Social Change, Washington, D.C., National Education Association, 1967.

UNESCO PUBLICATIONS: NATIONAL DISTRIBUTORS

Argentina	Editorial Losada, S.A., Alsina 1131, BUENOS AIRES.
Australia	*Publications:* Educational Supplies Pty. Ltd., Box 33, Post Office, BROOKVALE 2100, N.S.W. *Periodicals:* Dominie Pty. Ltd., Box 33, Post Office, BROOKVALE 2100, N.S.W. *Sub-agent:* United Nations Association of Australia (Victorian Division), 5th Floor, 134-136 Flinders St., MELBOURNE 3000.
Austria	Verlag Georg Fromme & Co., Arbeitergasse 1-7, 1051 WIEN.
Belgium	Jean De Lannoy, 112, rue du Trône, BRUXELLES 5.
Bolivia	Librería Universitaria, Univeraidad San Francisco Xavier, apartado 212, SUCRE.
Brazil	Fundação Getúlio Vargas, Serviço de Publicações, caixa postal 21120 Praia de Botafogo 188, RIO DE JANEIRO, G.B.
Bulgaria	Hemus, Kantora Literatura, bd. Rousky 6, SOFIJA.
Burma	Trade Corporation n.° (9), 550-552 Merchant Street, RANGOON.
Cameroon	Le Secrétaire général de la Commission nationale de la Republique fédérale du Cameroun pour l'Unesco B.P. 1061, YAOUNDÉ.
Canada	Information Canada, OTTAWA (Ont.).
Chile	Editorial Universitaria, S.A., casilla 10220, SANTIAGO.
Colombia	Librería Buchholz Galería, avenida Jiménez de Quesada 8-40, apartado aéreo 40-56, BOGOTÁ; Distrilibros Ltda., Pío Alfonso García, carrera 4ª, n^{os} 36-119 y 36-125, CARTAGENA; J. Germán Rodríguez N., Calle 17, 6-59, apartado nacional 83, GIRARDOT (Cundinamarca). Editorial Losada Ltda., Calle 18A, n.° 7-37 apartado aéreo 5829, apartado nacional 931, BOGOTÁ. *Sub-depots:* Edificio La Ceiba, Oficina 804, MEDELLÍN; Calle 37, n.° 14-73 Oficina, 305, BUCARAMANGA; Edificio Zaccour, Oficina 716, CALI.
Congo (People's Republic of)	Librairie populaire, B.P. 577, BRAZZAVILLE.
Costa Rica	Librería Trejos S.A., apartado 1313, SAN JOSÉ. Teléfonos: 2285 y 3200
Cuba	Distribuidora Nacional de Publicaciones, Neptuno 674, LA HABANA.
Cyprus	'MAM', Archbishop Makarios 3rd Avenue, P.O. Box 1722, NICOSIA.
Czechoslovakia	SNTL, Spalena 51, PRAHA 1 *(Permanent display)*; Zahranicni literatura, 11 Soukenicka, PRAHA 1. *For Slovakia only:* Alfa Verlag, Publishers, Hurbanovo nam. 6, 893 31 BRATISLAVA.
Dahomey	Librairie nationale, B.P. 294, PORTO NOVO.
Denmark	Ejnar Munksgaard Ltd., 6 Nørregade, 1165 KØBENHAVN K.
Arab Republic of Egypt	Librairie Kasr El Nil, 38, rue Kasr El Nil, LE CAIRE National Centre for Unesco Publications, 1 Tlaast Harb Street, Tahrir Square, CAIRO.
Ethiopia	National Commission for Unesco, P.O. Box 2996, ADDIS ABABA.
Finland	Akateeminen Kirjakauppa, 2 Keskuskatu, HELSINKI.
France	Librairie de l'Unesco, place de Fontenoy, 75 PARIS-7^{e}. CCP 12598-48.
French West Indies	Librairie 'Au Boul' Mich', 1 Rue Perrinon *and* 66 Avenue du Parquet, 972 FORT-DE-FRANCE (Martinique).
German Dem. Rep.	Deutscher Buch-Export und -Import GmbH Leninstrasse 16, 701 LEIPZIG.
Fed. Rep. of Germany	Verlag Dokumentation, Postfach 148, Jaiserstrasse 13, 8023, MÜNCHEN-PULLACH. *'The Courier' (German edition only):* Bahrenfelder Chaussee 160, HAMBURG-BAHRENFELD. CCP 27 66 50.
Ghana	Presbyterian Bookshop Depot Ltd., P.O. Box 195, ACCRA; Ghana Book Suppliers Ltd., P.O. Box 7869, ACCRA; The University Bookshop of Ghana, ACCRA; The University Bookshop of Cape Coast; The University Bookshop of Legon, P.O. Box 1, LEGON.
Greece	Anglo-Hellenic Agency, 5 Koumpari Street, ATHINAI 138.
Hong Kong	Swindon Book Co., 13-15 Lock Road, KOWLOON.
Hungary	Akademiai Konyvesbolt Vaci u 22, BUDAPEST V. A.K.V. Konyvtarosok Boltja, Népköztársaság utja 16, BUDAPEST VI.
Iceland	Snaebjörn Jonsson & Co. H. F., Hafnarstraeti 9, REYKJAVIK.
India	Orient Longman Ltd.; Nicol Road, Ballard Estate, BOMBAY 1; 17 Chittaranjan Avenue, CALCUTTA 13; 36A Anna Salai, Mount Road, MADRAS 2; B-3/7 Asaf Ali Road, NEW DELHI 1. *Sub-depots:* Oxford Book & Stationery Co., 17 Park Street, CALCUTTA 16; *and* Scindia House, NEW DELHI: Publications Section, Ministry of Education and Youth Services, 72 Theatre Communication Building, Connaught Place, NEW DELHI 1.
Indonesia	Indira P.T., Jl. Dr. Sam Ratulangie 37, JAKARTA.
Iran	Commission nationale iranienne pour l'Unesco, avenue Iranchahr Chomali n° 300, B.P. 1533, TÉHÉRAN.
Iraq	McKenzie's Bookshop, Al-Rashid Street, BAGHDAD; University Bookstore, University of Baghdad, P.O. Box 75, BAGHDAD.
Ireland	The National Press, 2 Wellington Road, Ballabridge, DUBLIN 4.
Israel	Emanuel Brown, formerly Blumstein's Bookstores: 35 Allenby Road *and* 48 Nachlat Benjamin Street, TEL AVIV; 9 Shlomzion Hamalka Street, JERUSALEM.
Italy	LICOSA (Libreria Commissionaria Sansoni S.p.A.), via Lamarmora 45, casella postale 552, 50121 FIRENZE
Jamaica	Sangster's Book Stores Ltd., P.O. Box 366, 101 Water Lane, KINGSTON.
Japan	Maruzen Co. Ltd., P.O. Box 5050, Tokyo International, TOKYO.
Kenya	The ESA Ltd., P.O. Box 30167, NAIROBI.
Khmer Republic	Librairie Albert Portail, 14, avenue Boulloche, PHNOM-PENH.
Korea	Korean National Commission for Unesco, P.O. Box Central 64, SEOUL.
Kuwait	The Kuwait Bookshop Co. Ltd., P.O. Box 2942, KUWAIT.
Liberia	Cole & Yancy Bookshops Ltd., P.O. Box 286, MONROVIA.
Libya	Agency for Development of Publication and Distribution, P.O. Box 34-35, TRIPOLI.
Luxembourg	Librairie Paul Bruck, 22 Grande-Rue, LUXEMBOURG.
Malaysia	Federal Publications Sdn. Bhd., Balai Berita, 31 Jalan Riong, KUALA LUMPUR.
Malta	Sapienza's Library, 26 Kingsway, VALLETTA.
Mauritius	Nalanda Co. Ltd. 30 Bourbon Street, PORT-LOUIS.
Mexico	CILA (Centro Interamericano de Libros Academicos), Sullivan 31 *bis*, MÉXICO 4, D.F.
Monaco	British Library, 30, boulevard des Moulins, MONTE-CARLO.
Netherlands	N.V. Martinus Nijhoff, Lange Voorhout 9, 's-GRAVENHAGE.
Netherlands Antilles	G. C. T. Van Dorp & Co. (Ned. Ant.) N.V., WILLEMSTAD (Curaçao, N.A.).
New Caledonia	Reprex S.A.R.L., B.P. 1572, NOUMÉA.

New Zealand	Government Printing Office, Government Bookshops: Rutland Street, P.O. Box 5344, AUCKLAND; 130 Oxford Terrace, P.O. Box 1721, CHRISTCHURCH; Alma Street, P.O. Box 857, HAMILTON; Princes Street, P.O. Box 1104, DUNEDIN; Mulgrave Street, Private Bag, WELLINGTON.
Niger	Librairie Manclert, B.P. 868, NIAMEY.
Nigeria	The University Bookshop of Ife; The University Bookshop of Ibadan, P.O. Box 286, IBADAN; The University of Nsukka; The University Bookshop of Lagos; The Ahmadu Bello University Bookshop of Zaria.
Norway	*All publications:* Johan Grundt Tanum, Karl Johans gate 41/43, OSLO 1. *'The Courier' only:* A.S Narvesens Litteraturtjeneste Box 6125, OSLO 6.
Pakistan	The West-Pak Publishing Co. Ltd., Unesco Publications House, P.O. Box 374, G.P.O., LAHORE. *Showrooms:* Urdu Bazaar, LAHORE *and* 57-58 Murree Highway, G/6-1, ISLAMABAD. Pakistan Publications Bookshop: Sarwar Road, RAWALPINDI; Mir's Book Agency, 65 Shahrah Quaid-e-azam, P.O. Box 729 LAHORE 3.
Peru	*'The Courier' only:* Editorial Losada Peruana, apartado 472, LIMA. *Other publications:* Distribuidora Inca S.A., Emilio Althaus 470, Lince, casilla 3115, LIMA.
Philippines	The Modern Book Co., 926 Rizal Avenue, P.O. Box 632, MANILA.
Poland	Osrodek Rozpowszechniania Wydawnictw Naukowych PAN, Palac Kultury i Nauki, WARSZAWA.
Portugal	Dias & Andrade Ltda., Livraria Portugal, rua do Carmo 70, LISBOA
Southern Rhodesia	Textbook Sales (PVT) Ltd., 67 Union Avenue, SALISBURY.
Romania	I.C.E. LIBRI, Calea Victoriei, nr. 126, P.O. Box 134-135, BUCURESTI. *Subscriptions to periodicals:* Rompresfilatelia, Calea Victoriei nr. 29, BUCURESTI.
Senegal	La Maison du Livre, 13, avenue Roume, B.P. 20-60, DAKAR; Librairie Clairafrique, B.P. 2005, DAKAR; Librairie 'Le Sénégal', B.P. 1504, DAKAR.
Singapore	Federal Publications Sdn Bhd., Times House, River Valley Road, SINGAPORE 9
South Africa	Van Schaik's Bookstore (Pty.) Ltd., Libri Building, Church Street, P.O. Box 724, PRETORIA.
Spain	*All publications:* Editiones Iberoamericanas, S.A., calle de Oñate 15, MADRID 20; Distribución de Publicaciones del Consejo Superior de Investigaciones Cientificas, Vitrubio 16, MADRID 6; Librería del Consejo Superior de Investigaciones Cientificas, Egipciacas 15, BARCELONA. *For 'The Courier' only:* Ediciones Liber, apartado 17, ONDÁRROA (Viscaya).
Sri Lanka	Lake House Bookshop, Sir Chittampalam Gardiner Mawata, P.O. Box 244, COLOMBO 2
Sudan	Al Bashir Bookshop, P.O. Box 1118, KHARTOUM.
Sweden	*All publications:* A.B.C.E. Fritzes Kungl. Hovbokhandel, Fredsgatan 2, Box 16356, 103 27 STOCKHOLM 16. *For 'The Courier':* Svenska FN-Förbundet, Skolgränd 2, Box 150 50, S-104 65 STOCKHOLM.
Switzerland	Europa Verlag, Rämistrasse 5, ZÜRICH; Librairie Payot, 6 rue Grenus, 1211 GENÈVE 11.
Tanzania	Dar es Salaam Bookshop, P.O. Box 9030, DAR ES SALAAM.
Thailand	Suksapan Panit, Mansion 9, Rajdamnern Avenue, BANGKOK.
Togo	Librairie évangélique, B.P. 378; LOMÉ; Librairie du Bon Pasteur, B.P. 1164, LOMÉ; Librairie moderne B.P. 777, LOMÉ.
Turkey	Librairie Hachette, 469 Istiklal Caddesi, Beyoglu, ISTANBUL.
Uganda	Uganda Bookshop, P.O. Box 145, KAMPALA.
U.S.S.R.	Mezhdunarodnaja Kniga, MOSKVA, G-200.
United Kingdom	H.M. Stationery Office, P.O. Box 569, LONDON SE1 9NH; Government bookshops: London, Belfast, Birmingham, Bristol, Cardiff, Edinburgh, Manchester.
United States	Unesco Publications Center, P.O. Box 433, New York, N.Y. 10016.
Upper Volta	Librairie Attie, B.P. 64, Ouagadougou. Librairie catholique 'Jeunesse d'Afrique', OUAGADOUGOU.
Venezuela	Libreria Historia, Monjas a Padre Sierra, Edificio Oeste 2, n.° 6 (frente al Capitolio), apartadode correos 7130-101, CARACAS.
Yugoslavia	Jugoslovenska Knjiga, Terazije 27, BEOGRAD. Drzavna Zalozba Slovenije Mestni Trg. 26, LJUBLJANA
Zaire	La Librairie, Institut national d'études politiques, B.P. 2307, KINSHASA; Commission nationale de la République du Zaire pour l'Unesco, Ministère de l'éducation nationale, KINSHASA.